

SEQUENCE LISTING

<110> Baum, Peter R.
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 Sorensen, Eric A.
 Youakim, Adel

<120> NECTIN POLYPEPTIDES, POLYNUCLEOTIDES, METHODS OF MAKING AND USE THEREOF

<130> 3101-A

<140> Not yet assigned
 <141> 2001-10-05

<150> 60/238,557
 <151> 2000-10-05

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<170> PatentIn version 3.1

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His Asn Ile Gly Phe Ser Asp Ser Gly Lys Tyr Ile Cys Lys Ala Val
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Pro Asp Gly Leu Leu Ala Ser Asp Asn Thr Leu His Phe Val His Pro
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Pro	Pro	Thr	Pro	Pro	Pro	Leu	Leu	Leu	Leu	Phe	Pro	Leu	Leu	Leu	
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Glu	Val	Asn	Glu	Thr	Ile	Thr	Gln	Ile	Ser	Trp	Glu	Lys	Ile	His	Gly	
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Lys	Ser	Ser	Gln	Thr	Val	Ala	Val	His	His	Pro	Gln	Tyr	Gly	Phe	Ser	
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Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro
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His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile
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Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly
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Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser
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Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu
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Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly
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Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser
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Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys
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Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile
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Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly
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Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
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Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
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Ser Tyr Pro Asp Ser Val Lys Lys Glu Asn Lys Asn Pro Val Asn Asn
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Asn Val Glu Asn Leu Asn Arg Phe Glu Arg Pro Met Asp Tyr Tyr Glu
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ccc ccg acg cca cct ccg ctg ctg ctg ctc ttc ccg ctg ctg ctc Pro Pro Thr Pro Pro Pro Leu Leu Leu Leu Phe Pro Leu Leu Leu	35	40	45	144
ttc tcc agg ctc tgt ggt gcc tta gct gga cca att att gtg gag cca Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro	50	55	60	192
cat gtc aca gca gta tgg gga aag aat gtt tca tta aag tgt tta att His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile	65	70	75	240
gaa gta aat gaa acc ata aca cag att tca tgg gag aag ata cat ggc Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly	85	90	95	288
aaa agt tca cag act gtt gca gtt cac cat ccc caa tat gga ttc tct Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser	100	105	110	336
gtt caa gga gaa tat cag gga aga gtc ttg ttt aaa aat tac tca ctt Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu	115	120	125	384
aat gat gca aca att act ctg cat aac ata gga ttc tct gat tct gga Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly	130	135	140	432
aaa tac atc tgc aaa gct gtt aca ttc ccg ctt gga aat gcc cag tcc Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser	145	150	155	480
tct aca act gta act gtg tta gtt gaa ccc act gtg agc ctg ata aaa Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys	165	170	175	528
ggg cca gat tct tta att gat gga gga aat gaa aca gta gca gcc att Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile	180	185	190	576
tgc atc gca gcc act gga aaa ccc gtt gca cat att gac tgg gaa ggt Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly	195	200	205	624
gat ctt ggt gaa atg gaa tcc act aca act tct ttt cca aat gaa acg Asp Leu Gly Glu Met Glu Ser Thr Thr Ser Phe Pro Asn Glu Thr	210	215	220	672
gca acg att atc agc cag tac aag cta ttt cca acc aga ttt gct aga Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg	225	230	235	720
gga agg cga att act tgt gtt gta aaa cat cca gcc ttg gaa aag gac Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp	245	250	255	768

atc cga tac tct ttc ata tta gac ata cag tat gct cct gaa gtt tcg Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser 260 265 270	816
gta aca gga tat gat gga aat tgg ttt gta gga aga aaa ggt gtt aat Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn 275 280 285	864
ctc aaa tgt aat gct gat gca aat cca cca ccc ttc aaa tct gtg tgg Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Phe Lys Ser Val Trp 290 295 300	912
agc agg ttg gat gga caa tgg cct gat ggt tta ttg gct tca gac aat Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn 305 310 315 320	960
act ctt cat ttt gtc cat cca ttg act ttc aat tat tct ggt gtt tat Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr 325 330 335	1008
atc tgt aaa gtg acc aat tcc ctt ggt caa aga agt gac caa aaa gtc Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val 340 345 350	1056
atc tac att tca gat cct cct act act acc acc ctt cag cct aca att Ile Tyr Ile Ser Asp Pro Pro Thr Thr Thr Leu Gln Pro Thr Ile 355 360 365	1104
cag tgg cat ccc tca act gct gac atc gag gat cta gca aca gaa cct Gln Trp His Pro Ser Thr Ala Asp Ile Glu Asp Leu Ala Thr Glu Pro 370 375 380	1152
aaa aaa ttg ccc ttc cca ttg tca act ttg gca aca att aag gat gac Lys Lys Leu Pro Phe Pro Leu Ser Thr Leu Ala Thr Ile Lys Asp Asp 385 390 395 400	1200
aca att gcc acg atc att gct agt gta gtg ggt ggg gct ctc ttc ata Thr Ile Ala Thr Ile Ala Ser Val Val Gly Gly Ala Leu Phe Ile 405 410 415	1248
gta ctt gta agt gtt ttg gct gga ata ttc tgc tat agg aga aga aga cgg Val Leu Val Ser Val Leu Ala Gly Ile Phe Cys Tyr Arg Arg Arg Arg 420 425 430	1296
acg ttt cgt gga gac tac ttt gcc aag aac tac att cca cca tca gat Thr Phe Arg Gly Asp Tyr Phe Ala Lys Asn Tyr Ile Pro Pro Ser Asp 435 440 445	1344
atg caa aaa gaa tca caa ata gat gtt ctt caa caa gat gag ctt gat Met Gln Lys Glu Ser Gln Ile Asp Val Leu Gln Gln Asp Glu Leu Asp 450 455 460	1392
tct tac cca gac agt gta aaa aaa gaa aac aaa aat cca gtg aac aat Ser Tyr Pro Asp Ser Val Lys Lys Glu Asn Lys Asn Pro Val Asn Asn 465 470 475 480	1440
cta ata cgt aaa gac tat tta gaa gag cct gaa aaa act cag tgg aac Leu Ile Arg Lys Asp Tyr Leu Glu Glu Pro Glu Lys Thr Gln Trp Asn 485 490 495	1488

aat gta gaa aat ctc aat agg ttt gaa aga cca atg gat tat tat gaa 1536
 Asn Val Glu Asn Leu Asn Arg Phe Glu Arg Pro Met Asp Tyr Tyr Glu
 500 505 510

gat cta aaa atg gga atg aag ttt gtc agt gat gaa cat tat gat gaa 1584
 Asp Leu Lys Met Gly Met Lys Phe Val Ser Asp Glu His Tyr Asp Glu
 515 520 525

aac gaa gat gac tta gtt tca cat gta gat ggt tcc gta att tcc agg 1632
 Asn Glu Asp Asp Leu Val Ser His Val Asp Gly Ser Val Ile Ser Arg
 530 535 540

agg gag tgg tat gtt tag 1650
 Arg Glu Trp Tyr Val
 545

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 20 25 30

Pro Pro Thr Pro Pro Pro Leu Leu Leu Leu Phe Pro Leu Leu Leu 45
 35 40 45

Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro 60
 50 55 60

His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile 80
 65 70 75 80

Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly 95
 85 90 95

Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser 110
 100 105 110

Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu 125
 115 120 125

Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly 140
 130 135 140

Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser 160
 145 150 155 160

Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys 175
 165 170 175

Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile 190
 180 185 190

Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly
 195 200 205

Asp Leu Gly Glu Met Glu Ser Thr Thr Thr Ser Phe Pro Asn Glu Thr
 210 215 220

Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240

Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255

Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270

Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285

Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Phe Lys Ser Val Trp
 290 295 300

Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320

Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr
 325 330 335

Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350

Ile Tyr Ile Ser Asp Pro Pro Thr Thr Thr Leu Gln Pro Thr Ile
 355 360 365

Gln Trp His Pro Ser Thr Ala Asp Ile Glu Asp Leu Ala Thr Glu Pro
 370 375 380

Lys Lys Leu Pro Phe Pro Leu Ser Thr Leu Ala Thr Ile Lys Asp Asp
 385 390 395 400

Thr Ile Ala Thr Ile Ile Ala Ser Val Val Gly Gly Ala Leu Phe Ile
 405 410 415

Val Leu Val Ser Val Leu Ala Gly Ile Phe Cys Tyr Arg Arg Arg
 420 425 430

Thr Phe Arg Gly Asp Tyr Phe Ala Lys Asn Tyr Ile Pro Pro Ser Asp
 435 440 445

Met Gln Lys Glu Ser Gln Ile Asp Val Leu Gln Gln Asp Glu Leu Asp
 450 455 460

Ser Tyr Pro Asp Ser Val Lys Lys Glu Asn Lys Asn Pro Val Asn Asn
 465 470 475 480

Leu Ile Arg Lys Asp Tyr Leu Glu Glu Pro Glu Lys Thr Gln Trp Asn
 485 490 495

Asn Val Glu Asn Leu Asn Arg Phe Glu Arg Pro Met Asp Tyr Tyr Glu
 500 505 510

Asp Leu Lys Met Gly Met Lys Phe Val Ser Asp Glu His Tyr Asp Glu
 515 520 525

Asn Glu Asp Asp Leu Val Ser His Val Asp Gly Ser Val Ile Ser Arg
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Arg Glu Trp Tyr Val
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tct ctc ctc gga gcc ggg ctc ctg ctg cag ccc ccg acg cca cct ccg
 Ser Leu Leu Gly Ala Gly Leu Leu Leu Gln Pro Pro Thr Pro Pro Pro
 20 25 30

ctg ctg ctg ctg ctc ttc ccg ctg ctc ttc tcc agg ctc tgt ggt
 Leu Leu Leu Leu Phe Pro Leu Leu Leu Phe Ser Arg Leu Cys Gly
 35 40 45

gcc tta gct gga cca att att gtg gag cca cat gtc aca gca gta tgg
 Ala Leu Ala Gly Pro Ile Ile Val Glu Pro His Val Thr Ala Val Trp
 50 55 60

gga aag aat gtt tca tta aag tgt tta att gaa gta aat gaa acc ata
 Gly Lys Asn Val Ser Leu Lys Cys Leu Ile Glu Val Asn Glu Thr Ile
 65 70 75 80

aca cag att tca tgg gag aag ata cat ggc aaa agt tca cag act gtt
 Thr Gln Ile Ser Trp Glu Lys Ile His Gly Lys Ser Ser Gln Thr Val
 85 90 95

gca gtt cac cat ccc caa tat gga ttc tct gtt caa gga gaa tat cag
 Ala Val His His Pro Gln Tyr Gly Phe Ser Val Gln Gly Glu Tyr Gln
 100 105 110

gga aga gtc ttg ttt aaa aat tac tca ctt aat gat gca aca att act
 Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu Asn Asp Ala Thr Ile Thr
 115 120 125

ctg cat aac ata gga ttc tct gat tct gga aaa tac atc tgc aaa gct
 Leu His Asn Ile Gly Phe Ser Asp Ser Gly Lys Tyr Ile Cys Lys Ala
 130 135 140

gtt aca ttc ccg ctt gga aat gcc cag tcc tct aca act gta act gtg
 Val Thr Phe Pro Leu Gly Asn Ala Gln Ser Ser Thr Thr Val Thr Val
 145 150 155 160

tta gtt gaa ccc act gtg agc ctg ata aaa ggg cca gat tct tta att Leu Val Glu Pro Thr Val Ser Leu Ile Lys Gly Pro Asp Ser Leu Ile 165 170 175	528
gat gga gga aat gaa aca gta gca gcc att tgc atc gca gcc act gga Asp Gly Gly Asn Glu Thr Val Ala Ala Ile Cys Ile Ala Ala Thr Gly 180 185 190	576
aaa ccc gtt gca cat att gac tgg gaa ggt gat ctt ggt gaa atg gaa Lys Pro Val Ala His Ile Asp Trp Glu Gly Asp Leu Gly Glu Met Glu 195 200 205	624
tcc act aca act tct ttt cca aat gaa acg gca acg att atc agc cag Ser Thr Thr Ser Phe Pro Asn Glu Thr Ala Thr Ile Ile Ser Gln 210 215 220	672
tac aag cta ttt cca acc aga ttt gct aga gga agg cga att act tgt Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg Gly Arg Arg Ile Thr Cys 225 230 235 240	720
gtt gta aaa cat cca gcc ttg gaa aag gac atc cga tac tct ttc ata Val Val Lys His Pro Ala Leu Glu Lys Asp Ile Arg Tyr Ser Phe Ile 245 250 255	768
tta gac ata cag tat gct cct gaa gtt tcg gta aca gga tat gat gga Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser Val Thr Gly Tyr Asp Gly 260 265 270	816
aat tgg ttt gta gga aga aaa ggt gtt aat ctc aaa tgt aat gct gat Asn Trp Phe Val Gly Arg Lys Gly Val Asn Leu Lys Cys Asn Ala Asp 275 280 285	864
gca aat cca cca ccc ttc aaa tct gtg tgg agc agg ttg gat gga caa Ala Asn Pro Pro Phe Lys Ser Val Trp Ser Arg Leu Asp Gly Gln 290 295 300	912
tgg cct gat ggt tta ttg gct tca gac aat act ctt cat ttt gtc cat Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn Thr Leu His Phe Val His 305 310 315 320	960
cca ttg act ttc aat tat tct ggt gtt tat atc tgt aaa gtg acc aat Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr Ile Cys Lys Val Thr Asn 325 330 335	1008
tcc ctt ggt caa aga agt gac caa aaa gtc atc tac att tca gat gtt Ser Leu Gly Gln Arg Ser Asp Gln Lys Val Ile Tyr Ile Ser Asp Val 340 345 350	1056
cca ttt aag cag acc tct tcc ata gct gta gct gga gcg gta att gga Pro Phe Lys Gln Thr Ser Ser Ile Ala Val Ala Gly Ala Val Ile Gly 355 360 365	1104
gct gtt ctt gcc ctt ttc atc att gct atc ttt gtg act gtg ctg ctg Ala Val Leu Ala Leu Phe Ile Ile Ala Ile Phe Val Thr Val Leu Leu 370 375 380	1152
act cct cga aaa aaa aga cca tcc tat ctt gac aaa gtg att gac ctt Thr Pro Arg Lys Lys Arg Pro Ser Tyr Leu Asp Lys Val Ile Asp Leu 385 390 395 400	1200

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Pro Pro Thr His Lys Pro Pro Pro Leu Tyr Glu Glu Arg Ser Pro Pro	
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ttg cct cag aaa gac cta ttt cag cct gaa cac ttg cct ttg cag act	1296
Leu Pro Gln Lys Asp Leu Phe Gln Pro Glu His Leu Pro Leu Gln Thr	
420 425 430	
cag ttc aaa gaa aga gaa gtt ggc aat ctt cag cac tct aat gga cta	1344
Gln Phe Lys Glu Arg Glu Val Gly Asn Leu Gln His Ser Asn Gly Leu	
435 440 445	
aat agc agg agt ttt gac tat gaa gat gag aat cca gtt ggg gaa gat	1392
Asn Ser Arg Ser Phe Asp Tyr Glu Asp Glu Asn Pro Val Gly Glu Asp	
450 455 460	
ggc att cag cag atg tac ccc ctt tac aat caa atg tgc tac caa gac	1440
Gly Ile Gln Gln Met Tyr Pro Leu Tyr Asn Gln Met Cys Tyr Gln Asp	
465 470 475 480	
cgg agc cct ggc aaa cat cat caa aat aac gac cct aag aga gtc tac	1488
Arg Ser Pro Gly Lys His His Gln Asn Asn Asp Pro Lys Arg Val Tyr	
485 490 495	
atc gac cca cga gaa cat tat gtg tgattttct cttttccaa tggcggttct	1542
Ile Asp Pro Arg Glu His Tyr Val	
500	
aacaaatgtt tattcttaga ttggggagag aagctaaggc caatagttat ttactgtct	1602
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aatagcaaat ttctttctt cattaagcgt ttcttaacca ccagctgtgt ttgtgaactt	1722
gactatagct ttgtgtgtt ctgtgtatgat ggtatttaac tgctaacatt tggcctacaa	1782
tggcattttc atttaacagt acagcatctg cctgtgataa ctgcagtgtat tctccagaaa	1842
gaaaggcccc agctgatact attaacctcg ttgggtctca ggcatgctag cctgttcatc	1902
tgtaattcac acaggcataa aaatgagttc agaatctatt tcactaatta tttagctggg	1962
atttggattt ccctgacatg cttataacaa ttacaataacc tgtgtacaaa cagaggcctg	2022
aggaaagagg caaaatttcgc ttttcatcca aacagcaaca aaaggcagtt gaaaccttca	2082
agcctgttgg ttgctttaa acctttgtgt tattatgata tatattctt gttgagcact	2142
gaggtcctga gggatacata tctcttgctg ttttctgcct actttgact agctgtatgt	2202
aacaaaggct ctactttgc tctgtcactg ttcctacagt cctgttcttt actagctaga	2262
ttagcctatt ttgcacctat taaattctaa aaaccttgtt taaatgggt acagccttta	2322
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tctttcaaac taatcccagc cacacagtct tcacccccc ttctgcattc ttcaactac	2442
ttatcatcca tgtttatct acctcagaaa agcctgctgg aaagtcacca taaaataact	2502
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gcacgtatgt taaaactgaca tgttttat cccttctccc c	2603

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Ser Leu Leu Gly Ala Gly Leu Leu Leu Gln Pro Pro Thr Pro Pro Pro
 20 25 30

Leu Leu Leu Leu Phe Pro Leu Leu Leu Phe Ser Arg Leu Cys Gly
 35 40 45

Ala Leu Ala Gly Pro Ile Ile Val Glu Pro His Val Thr Ala Val Trp
 50 55 60

Gly Lys Asn Val Ser Leu Lys Cys Leu Ile Glu Val Asn Glu Thr Ile
 .65 70 75 80

Thr Gln Ile Ser Trp Glu Lys Ile His Gly Lys Ser Ser Gln Thr Val
 85 90 95

Ala Val His His Pro Gln Tyr Gly Phe Ser Val Gln Gly Glu Tyr Gln
 100 105 110

Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu Asn Asp Ala Thr Ile Thr
 115 120 125

Leu His Asn Ile Gly Phe Ser Asp Ser Gly Lys Tyr Ile Cys Lys Ala
 130 135 140

Val Thr Phe Pro Leu Gly Asn Ala Gln Ser Ser Thr Thr Val Thr Val
 145 150 155 160

Leu Val Glu Pro Thr Val Ser Leu Ile Lys Gly Pro Asp Ser Leu Ile
 165 170 175

Asp Gly Gly Asn Glu Thr Val Ala Ala Ile Cys Ile Ala Ala Thr Gly
 180 185 190

Lys Pro Val Ala His Ile Asp Trp Glu Gly Asp Leu Gly Glu Met Glu
 195 200 205

Ser Thr Thr Thr Ser Phe Pro Asn Glu Thr Ala Thr Ile Ile Ser Gln
 210 215 220

Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg Gly Arg Arg Ile Thr Cys
 225 230 235 240

Val Val Lys His Pro Ala Leu Glu Lys Asp Ile Arg Tyr Ser Phe Ile
 245 250 255

Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser Val Thr Gly Tyr Asp Gly
 260 265 270

Asn Trp Phe Val Gly Arg Lys Gly Val Asn Leu Lys Cys Asn Ala Asp
 275 280 285

Ala Asn Pro Pro Pro Phe Lys Ser Val Trp Ser Arg Leu Asp Gly Gln
 290 295 300

Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn Thr Leu His Phe Val His
 305 310 315 320

Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr Ile Cys Lys Val Thr Asn
 325 330 335

Ser Leu Gly Gln Arg Ser Asp Gln Lys Val Ile Tyr Ile Ser Asp Val
 340 345 350
 Pro Phe Lys Gln Thr Ser Ser Ile Ala Val Ala Gly Ala Val Ile Gly
 355 360 365
 Ala Val Leu Ala Leu Phe Ile Ile Ala Ile Phe Val Thr Val Leu Leu
 370 375 380
 Thr Pro Arg Lys Lys Arg Pro Ser Tyr Leu Asp Lys Val Ile Asp Leu
 385 390 395 400
 Pro Pro Thr His Lys Pro Pro Pro Leu Tyr Glu Glu Arg Ser Pro Pro
 405 410 415
 Leu Pro Gln Lys Asp Leu Phe Gln Pro Glu His Leu Pro Leu Gln Thr
 420 425 430
 Gln Phe Lys Glu Arg Glu Val Gly Asn Leu Gln His Ser Asn Gly Leu
 435 440 445
 Asn Ser Arg Ser Phe Asp Tyr Glu Asp Glu Asn Pro Val Gly Glu Asp
 450 455 460
 Gly Ile Gln Gln Met Tyr Pro Leu Tyr Asn Gln Met Cys Tyr Gln Asp
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 from human Nectin-3 beta

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 Ala Gln Leu Ser Ser Ala Ser Leu Leu Gly Ala Gly Leu Leu Leu Gln
 20 25 30

ccc ccg acg cca cct ccg ctg ctg ctg ctc ttc ccg ctg ctg ctc 144
 Pro Pro Thr Pro Pro Pro Leu Leu Leu Leu Phe Pro Leu Leu Leu
 35 40 45

ttc tcc agg ctc tgt ggt gcc tta gct gga cca att att gtg gag cca 192
 Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro
 50 55 60

cat gtc aca gca gta tgg gga aag aat gtt tca tta aag tgt tta att 240
 His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile
 65 70 75 80

gaa gta aat gaa acc ata aca cag att tca tgg gag aag ata cat ggc 288
 Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly
 85 90 95

aaa agt tca cag act gtt gca gtt cac cat ccc caa tat gga ttc tct 336
 Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser
 100 105 110

gtt caa gga gaa tat cag gga aga gtc ttg ttt aaa aat tac tca ctt 384
 Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu
 115 120 125

aat gat gca aca att act ctg cat aac ata gga ttc tct gat tct gga 432
 Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly
 130 135 140

aaa tac atc tgc aaa gct gtt aca ttc ccg ctt gga aat gcc cag tcc 480
 Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser
 145 150 155 160

tct aca act gta act gtg tta gtt gaa ccc act gtg agc ctg ata aaa 528
 Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys
 165 170 175

ggg cca gat tct tta att gat gga gga aat gaa aca gta gca gcc att 576
 Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile
 180 185 190

tgc atc gca gcc act gga aaa ccc gtt gca cat att gac tgg gaa ggt 624
 Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly
 195 200 205

gat ctt ggt gaa atg gaa tcc act aca act tct ttt cca aat gaa acg 672
 Asp Leu Gly Glu Met Glu Ser Thr Thr Ser Phe Pro Asn Glu Thr
 210 215 220

gca acg att atc agc cag tac aag cta ttt cca acc aga ttt gct aga 720
 Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240

gga agg cga att act tgt gtt gta aaa cat cca gcc ttg gaa aag gac 768
 Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255

atc cga tac tct ttc ata tta gac ata cag tat gct cct gaa gtt tcg 816
 Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270

gta aca gga tat gat gga aat tgg ttt gta gga aga aaa ggt gtt aat		864
Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn		
275 280 285		
ctc aaa tgt aat gct gat gca aat cca cca ccc ttc aaa tct gtg tgg		912
Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Phe Lys Ser Val Trp		
290 295 300		
agc agg ttg gat gga caa tgg cct gat ggt tta ttg gct tca gac aat		960
Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn		
305 310 315 320		
act ctt cat ttt gtc cat cca ttg act ttc aat tat tct ggt gtt tat		1008
Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr		
325 330 335		
atc tgt aaa gtg acc aat tcc ctt ggt caa aga agt gac caa aaa gtc		1056
Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val		
340 345 350		
atc tac att tca gat gtt cca ttt aag cag acc tct tcc ata gct gta		1104
Ile Tyr Ile Ser Asp Val Pro Phe Lys Gln Thr Ser Ser Ile Ala Val		
355 360 365		
gct gga gcg gta att gga gct gtt ctt gcc ctt ttc atc att gct atc		1152
Ala Gly Ala Val Ile Gly Ala Val Leu Ala Leu Phe Ile Ile Ala Ile		
370 375 380		
ttt gtg act gtg ctg ctg act cct cga aaa aaa aga cca tcc tat ctt		1200
Phe Val Thr Val Leu Leu Thr Pro Arg Lys Lys Arg Pro Ser Tyr Leu		
385 390 395 400		
gac aaa gtg att gac ctt cca ccc aca cat aaa cca cct cct ctg tat		1248
Asp Lys Val Ile Asp Leu Pro Pro Thr His Lys Pro Pro Pro Leu Tyr		
405 410 415		
gaa gaa cga tcc cca cct ttg cct cag aaa gac cta ttt cag cct gaa		1296
Glu Glu Arg Ser Pro Pro Leu Pro Gln Lys Asp Leu Phe Gln Pro Glu		
420 425 430		
cac ttg cct ttg cag act cag ttc aaa gaa aga gaa gtt ggc aat ctt		1344
His Leu Pro Leu Gln Thr Gln Phe Lys Glu Arg Glu Val Gly Asn Leu		
435 440 445		
cag cac tct aat gga cta aat agc agg agt ttt gac tat gaa gat gag		1392
Gln His Ser Asn Gly Leu Asn Ser Arg Ser Phe Asp Tyr Glu Asp Glu		
450 455 460		
aat cca gtt ggg gaa gat ggc att cag cag atg tac ccc ctt tac aat		1440
Asn Pro Val Gly Glu Asp Gly Ile Gln Gln Met Tyr Pro Leu Tyr Asn		
465 470 475 480		
caa atg tgc tac caa gac cgg agc cct ggc aaa cat cat caa aat aac		1488
Gln Met Cys Tyr Gln Asp Arg Ser Pro Gly Lys His His Gln Asn Asn		
485 490 495		
gac cct aag aga gtc tac atc gac cca cga gaa cat tat gtg tga		1533
Asp Pro Lys Arg Val Tyr Ile Asp Pro Arg Glu His Tyr Val		
500 505 510		

<210> 10
 <211> 510
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> nucleotides 1-18 are from *Mus musculus* Nectin-3 DNA, the rest are from human Nectin-3 beta

<400> 10

Met	Ala	Arg	Thr	Pro	Gly	Pro	Ser	Pro	Leu	Cys	Pro	Gly	Gly	Gly	Lys
1				5					10					15	

Ala	Gln	Leu	Ser	Ser	Ala	Ser	Leu	Leu	Gly	Ala	Gly	Leu	Leu	Leu	Gln
			20					25				30			

Pro	Pro	Thr	Pro	Pro	Pro	Leu	Leu	Leu	Leu	Phe	Pro	Leu	Leu	Leu	
					35			40			45				

Phe	Ser	Arg	Leu	Cys	Gly	Ala	Leu	Ala	Gly	Pro	Ile	Ile	Val	Glu	Pro
					50			55			60				

His	Val	Thr	Ala	Val	Trp	Gly	Lys	Asn	Val	Ser	Leu	Lys	Cys	Leu	Ile
					65			70		75		80			

Glu	Val	Asn	Glu	Thr	Ile	Thr	Gln	Ile	Ser	Trp	Glu	Lys	Ile	His	Gly
					85			90			95				

Lys	Ser	Ser	Gln	Thr	Val	Ala	Val	His	His	Pro	Gln	Tyr	Gly	Phe	Ser
					100			105			110				

Val	Gln	Gly	Glu	Tyr	Gln	Gly	Arg	Val	Leu	Phe	Lys	Asn	Tyr	Ser	Leu
					115			120			125				

Asn	Asp	Ala	Thr	Ile	Thr	Leu	His	Asn	Ile	Gly	Phe	Ser	Asp	Ser	Gly
					130			135			140				

Lys	Tyr	Ile	Cys	Lys	Ala	Val	Thr	Phe	Pro	Leu	Gly	Asn	Ala	Gln	Ser
					145			150			155		160		

Ser	Thr	Thr	Val	Thr	Val	Leu	Val	Glu	Pro	Thr	Val	Ser	Leu	Ile	Lys
					165			170			175				

Gly	Pro	Asp	Ser	Leu	Ile	Asp	Gly	Gly	Asn	Glu	Thr	Val	Ala	Ala	Ile
					180			185			190				

Cys	Ile	Ala	Ala	Thr	Gly	Lys	Pro	Val	Ala	His	Ile	Asp	Trp	Glu	Gly
					195			200			205				

Asp	Leu	Gly	Glu	Met	Glu	Ser	Thr	Thr	Ser	Phe	Pro	Asn	Glu	Thr	
					210			215			220				

Ala	Thr	Ile	Ile	Ser	Gln	Tyr	Lys	Leu	Phe	Pro	Thr	Arg	Phe	Ala	Arg
					225			230			235		240		

Gly	Arg	Arg	Ile	Thr	Cys	Val	Val	Lys	His	Pro	Ala	Leu	Glu	Lys	Asp
					245			250			255				

Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270
 Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285
 Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Pro Phe Lys Ser Val Trp
 290 295 300
 Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320
 Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr
 325 330 335
 Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350
 Ile Tyr Ile Ser Asp Val Pro Phe Lys Gln Thr Ser Ser Ile Ala Val
 355 360 365
 Ala Gly Ala Val Ile Gly Ala Val Leu Ala Leu Phe Ile Ile Ala Ile
 370 375 380
 Phe Val Thr Val Leu Leu Thr Pro Arg Lys Lys Arg Pro Ser Tyr Leu
 385 390 395 400
 Asp Lys Val Ile Asp Leu Pro Pro Thr His Lys Pro Pro Pro Leu Tyr
 405 410 415
 Glu Glu Arg Ser Pro Pro Leu Pro Gln Lys Asp Leu Phe Gln Pro Glu
 420 425 430
 His Leu Pro Leu Gln Thr Gln Phe Lys Glu Arg Glu Val Gly Asn Leu
 435 440 445
 Gln His Ser Asn Gly Leu Asn Ser Arg Ser Phe Asp Tyr Glu Asp Glu
 450 455 460
 Asn Pro Val Gly Glu Asp Gly Ile Gln Gln Met Tyr Pro Leu Tyr Asn
 465 470 475 480
 Gln Met Cys Tyr Gln Asp Arg Ser Pro Gly Lys His His Gln Asn Asn
 485 490 495
 Asp Pro Lys Arg Val Tyr Ile Asp Pro Arg Glu His Tyr Val
 500 505 510

<210> 11
 <211> 1533
 <212> DNA
 <213> homo sapiens

<220>
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Met Ala Arg Thr Leu Arg Pro Ser Pro Leu Cys Pro Gly Gly Gly Lys		
1 5 10 15		
gca caa ctt tcc tcc gct tct ctc ctc gga gcc ggg ctc ctg ctg cag	96	
Ala Gln Leu Ser Ser Ala Ser Leu Leu Gly Ala Gly Leu Leu Gln		
20 25 30		
ccc ccg acg cca cct ccg ctg ctg ctg ctc ttc ccg ctg ctg ctc	144	
Pro Pro Thr Pro Pro Leu Leu Leu Phe Pro Leu Leu Leu		
35 40 45		
ttc tcc agg ctc tgt ggt gcc tta gct gga cca att att gtg gag cca	192	
Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro		
50 55 60		
cat gtc aca gca gta tgg gga aag aat gtt tca tta aag tgt tta att	240	
His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile		
65 70 75 80		
gaa gta aat gaa acc ata aca cag att tca tgg gag aag ata cat ggc	288	
Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly		
85 90 95		
aaa agt tca cag act gtt gca gtt cac cat ccc caa tat gga ttc tct	336	
Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser		
100 105 110		
gtt caa gga gaa tat cag gga aga gtc ttg ttt aaa aat tac tca ctt	384	
Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu		
115 120 125		
aat gat gca aca att act ctg cat aac ata gga ttc tct gat tct gga	432	
Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly		
130 135 140		
aaa tac atc tgc aaa gct gtt aca ttc ccg ctt gga aat gcc cag tcc	480	
Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser		
145 150 155 160		
tct aca act gta act gtg tta gtt gaa ccc act gtg agc ctg ata aaa	528	
Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys		
165 170 175		
ggg cca gat tct tta att gat gga gga aat gaa aca gta gca gcc att	576	
Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile		
180 185 190		
tgc atc gca gcc act gga aaa ccc gtt gca cat att gac tgg gaa ggt	624	
Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly		
195 200 205		
gat ctt ggt gaa atg gaa tcc act aca act tct ttt cca aat gaa acg	672	
Asp Leu Gly Glu Met Glu Ser Thr Thr Ser Phe Pro Asn Glu Thr		
210 215 220		

gca acg att atc agc cag tac aag cta ttt cca acc aga ttt gct aga 720
 Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240

gga agg cga att act tgt gtt gta aaa cat cca gcc ttg gaa aag gac 768
 Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255

atc cga tac tct ttc ata tta gac ata cag tat gct cct gaa gtt tcg 816
 Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270

gta aca gga tat gat gga aat tgg ttt gta gga aga aaa ggt gtt aat 864
 Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285

ctc aaa tgt aat gct gat gca aat cca cca ccc ttc aaa tct gtg tgg 912
 Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Phe Lys Ser Val Trp
 290 295 300

agc agg ttg gat gga caa tgg cct gat ggt tta ttg gct tca gac aat 960
 Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320

act ctt cat ttt gtc cat cca ttg act ttc aat tat tct ggt gtt tat 1008
 Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr
 325 330 335

atc tgt aaa gtg acc aat tcc ctt ggt caa aga agt gac caa aaa gtc 1056
 Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350

atc tac att tca gat gtt cca ttt aag cag acc tct tcc ata gct gta 1104
 Ile Tyr Ile Ser Asp Val Pro Phe Lys Gln Thr Ser Ser Ile Ala Val
 355 360 365

gct gga gcg gta att gga gct gtt ctt gcc ctt ttc atc att gct atc 1152
 Ala Gly Ala Val Ile Gly Ala Val Leu Ala Leu Phe Ile Ile Ala Ile
 370 375 380

ttt gtg act gtg ctg ctg act cct cga aaa aaa aga cca tcc tat ctt 1200
 Phe Val Thr Val Leu Leu Thr Pro Arg Lys Lys Arg Pro Ser Tyr Leu
 385 390 395 400

gac aaa gtg att gac ctt cca ccc aca cat aaa cca cct cct ctg tat 1248
 Asp Lys Val Ile Asp Leu Pro Pro Thr His Lys Pro Pro Pro Leu Tyr
 405 410 415

gaa gaa cga tcc cca cct ttg cct cag aaa gac cta ttt cag cct gaa 1296
 Glu Glu Arg Ser Pro Pro Leu Pro Gln Lys Asp Leu Phe Gln Pro Glu
 420 425 430

cac ttg cct ttg cag act cag ttc aaa gaa aga gaa gtt ggc aat ctt 1344
 His Leu Pro Leu Gln Thr Gln Phe Lys Glu Arg Glu Val Gly Asn Leu
 435 440 445

cag cac tct aat gga cta aat agc agg agt ttt gac tat gaa gat gag 1392
 Gln His Ser Asn Gly Leu Asn Ser Arg Ser Phe Asp Tyr Glu Asp Glu
 450 455 460

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aat cca gtt ggg gaa gat ggc att cag cag atg tac ccc ctt tac aat 1440
 Asn Pro Val Gly Glu Asp Gly Ile Gln Gln Met Tyr Pro Leu Tyr Asn
 465 470 475 480

caa atg tgc tac caa gac cgg agc cct ggc aaa cat cat caa aat aac 1488
 Gln Met Cys Tyr Gln Asp Arg Ser Pro Gly Lys His His Gln Asn Asn
 485 490 495

gac cct aag aga gtc tac atc gac cca cga gaa cat tat gtg tga 1533
 Asp Pro Lys Arg Val Tyr Ile Asp Pro Arg Glu His Tyr Val
 500 505 510

<210> 12
 <211> 510
 <212> PRT
 <213> homo sapiens

<400> 12

Met Ala Arg Thr Leu Arg Pro Ser Pro Leu Cys Pro Gly Gly Lys
 1 5 10 15

Ala Gln Leu Ser Ser Ala Ser Leu Leu Gly Ala Gly Leu Leu Gln
 20 25 30

Pro Pro Thr Pro Pro Pro Leu Leu Leu Leu Phe Pro Leu Leu Leu
 35 40 45

Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro
 50 55 60

His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile
 65 70 75 80

Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly
 85 90 95

Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser
 100 105 110

Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu
 115 120 125

Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly
 130 135 140

Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser
 145 150 155 160

Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys
 165 170 175

Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile
 180 185 190

Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly
 195 200 205

Asp Leu Gly Glu Met Glu Ser Thr Thr Thr Ser Phe Pro Asn Glu Thr
 210 215 220

Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240

Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255

Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270

Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285

Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Pro Phe Lys Ser Val Trp
 290 295 300

Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320

Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr
 325 330 335

Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350

Ile Tyr Ile Ser Asp Val Pro Phe Lys Gln Thr Ser Ser Ile Ala Val
 355 360 365

Ala Gly Ala Val Ile Gly Ala Val Leu Ala Leu Phe Ile Ile Ala Ile
 370 375 380

Phe Val Thr Val Leu Leu Thr Pro Arg Lys Lys Arg Pro Ser Tyr Leu
 385 390 395 400

Asp Lys Val Ile Asp Leu Pro Pro Thr His Lys Pro Pro Pro Leu Tyr
 405 410 415

Glu Glu Arg Ser Pro Pro Leu Pro Gln Lys Asp Leu Phe Gln Pro Glu
 420 425 430

His Leu Pro Leu Gln Thr Gln Phe Lys Glu Arg Glu Val Gly Asn Leu
 435 440 445

Gln His Ser Asn Gly Leu Asn Ser Arg Ser Phe Asp Tyr Glu Asp Glu
 450 455 460

Asn Pro Val Gly Glu Asp Gly Ile Gln Gln Met Tyr Pro Leu Tyr Asn
 465 470 475 480

Gln Met Cys Tyr Gln Asp Arg Ser Pro Gly Lys His His Gln Asn Asn
 485 490 495

Asp Pro Lys Arg Val Tyr Ile Asp Pro Arg Glu His Tyr Val
 500 505 510

<210> 13
 <211> 634

<212> PRT

<213> Artificial Sequence

<220>

<223> fusion protein: human Nectin-3-alpha-Fc

<400> 13

Met	Ala	Arg	Thr	Pro	Gly	Pro	Ser	Pro	Leu	Cys	Pro	Gly	Gly	Gly	Lys
1				5					10					15	

Ala	Gln	Leu	Ser	Ser	Ala	Ser	Leu	Leu	Gly	Ala	Gly	Leu	Leu	Leu	Gln
			20				25					30			

Pro	Pro	Thr	Pro	Pro	Pro	Leu	Leu	Leu	Leu	Phe	Pro	Leu	Leu	Leu	
						35		40			45				

Phe	Ser	Arg	Leu	Cys	Gly	Ala	Leu	Ala	Gly	Pro	Ile	Ile	Val	Glu	Pro
					55				60						

His	Val	Thr	Ala	Val	Trp	Gly	Lys	Asn	Val	Ser	Leu	Lys	Cys	Leu	Ile
65				70				75				80			

Glu	Val	Asn	Glu	Thr	Ile	Thr	Gln	Ile	Ser	Trp	Glu	Lys	Ile	His	Gly
				85				90				95			

Lys	Ser	Ser	Gln	Thr	Val	Ala	Val	His	His	Pro	Gln	Tyr	Gly	Phe	Ser
					100			105			110				

Val	Gln	Gly	Glu	Tyr	Gln	Gly	Arg	Val	Leu	Phe	Lys	Asn	Tyr	Ser	Leu
					115		120			125					

Asn	Asp	Ala	Thr	Ile	Thr	Leu	His	Asn	Ile	Gly	Phe	Ser	Asp	Ser	Gly
				130		135			140						

Lys	Tyr	Ile	Cys	Lys	Ala	Val	Thr	Phe	Pro	Leu	Gly	Asn	Ala	Gln	Ser
145					150				155			160			

Ser	Thr	Thr	Val	Thr	Val	Leu	Val	Glu	Pro	Thr	Val	Ser	Leu	Ile	Lys
				165				170			175				

Gly	Pro	Asp	Ser	Leu	Ile	Asp	Gly	Gly	Asn	Glu	Thr	Val	Ala	Ala	Ile
					180		185			190					

Cys	Ile	Ala	Ala	Thr	Gly	Lys	Pro	Val	Ala	His	Ile	Asp	Trp	Glu	Gly
				195			200			205					

Asp	Leu	Gly	Glu	Met	Glu	Ser	Thr	Thr	Ser	Phe	Pro	Asn	Glu	Thr	
				210		215			220						

Ala	Thr	Ile	Ile	Ser	Gln	Tyr	Lys	Leu	Phe	Pro	Thr	Arg	Phe	Ala	Arg
225					230				235			240			

Gly	Arg	Arg	Ile	Thr	Cys	Val	Val	Lys	His	Pro	Ala	Leu	Glu	Lys	Asp
				245				250			255				

Ile	Arg	Tyr	Ser	Phe	Ile	Leu	Asp	Ile	Gln	Tyr	Ala	Pro	Glu	Val	Ser
				260			265			270					

Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285

Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Pro Phe Lys Ser Val Trp
 290 295 300

Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320

Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr
 325 330 335

Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350

Ile Tyr Ile Ser Asp Pro Pro Thr Thr Thr Leu Gln Pro Thr Ile
 355 360 365

Gln Trp His Pro Ser Thr Ala Asp Ile Glu Asp Leu Ala Thr Glu Pro
 370 375 380

Lys Lys Leu Pro Phe Pro Leu Ser Thr Leu Ala Thr Ile Lys Asp Asp
 385 390 395 400

Thr Ile Ala Thr Arg Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys
 405 410 415

Pro Ala Pro Glu Ala Glu Gly Ala Pro Ser Val Phe Leu Phe Pro Pro
 420 425 430

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys
 435 440 445

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp
 450 455 460

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu
 465 470 475 480

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu
 485 490 495

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn
 500 505 510

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly
 515 520 525

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu
 530 535 540

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr
 545 550 555 560

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn
 565 570 575

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe
 580 585 590

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn
 595 600 605

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr
 610 615 620

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 625 630

<210> 14

<211> 595

<212> PRT

<213> Artificial Sequence

<220>

<223> fusion protein: human Nectin-3-beta-Fc

<400> 14

Met Ala Arg Thr Pro Gly Pro Ser Pro Leu Cys Pro Gly Gly Lys
 1 5 10 15

Ala Gln Leu Ser Ser Ala Ser Leu Leu Gly Ala Gly Leu Leu Gln
 20 25 30

Pro Pro Thr Pro Pro Pro Leu Leu Leu Leu Phe Pro Leu Leu Leu
 35 40 45

Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro
 50 55 60

His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile
 65 70 75 80

Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly
 85 90 95

Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser
 100 105 110

Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu
 115 120 125

Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly
 130 135 140

Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser
 145 150 155 160

Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys
 165 170 175

Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile
 180 185 190

Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly
 195 200 205

Asp Leu Gly Glu Met Glu Ser Thr Thr Ser Phe Pro Asn Glu Thr
 210 215 220

Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240

Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255

Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270

Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285

Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Pro Phe Lys Ser Val Trp
 290 295 300

Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320

Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr
 325 330 335

Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350

Ile Tyr Ile Ser Asp Val Pro Phe Lys Gln Thr Ser Ser Arg Ser Cys
 355 360 365

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Glu Gly
 370 375 380

Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
 385 390 395 400

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
 405 410 415

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
 420 425 430

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
 435 440 445

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
 450 455 460

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
 465 470 475 480

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
 485 490 495

Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
 500 505 510

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
 515 520 525

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro
 530 535 540

Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val
 545 550 555 560

Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met
 565 570 575

His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser
 580 585 590

Pro Gly Lys
 595

<210> 15
 <211> 426
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> fusion protein: human Nectin-3-alpha-FLAGpolyHis

<400> 15

Met Ala Arg Thr Pro Gly Pro Ser Pro Leu Cys Pro Gly Gly Lys
 1 5 10 15

Ala Gln Leu Ser Ser Ala Ser Leu Leu Gly Ala Gly Leu Leu Leu Gln
 20 25 30

Pro Pro Thr Pro Pro Pro Leu Leu Leu Leu Phe Pro Leu Leu Leu
 35 40 45

Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro
 50 55 60

His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile
 65 70 75 80

Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly
 85 90 95

Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser
 100 105 110

Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu
 115 120 125

Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly
 130 135 140

Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser
 145 150 155 160

Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys
 165 170 175

Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile
 180 185 190

Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly
 195 200 205
 Asp Leu Gly Glu Met Glu Ser Thr Thr Ser Phe Pro Asn Glu Thr
 210 215 220
 Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240
 Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255
 Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270
 Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285
 Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Pro Phe Lys Ser Val Trp
 290 295 300
 Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320
 Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr
 325 330 335
 Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350
 Ile Tyr Ile Ser Asp Pro Pro Thr Thr Thr Leu Gln Pro Thr Ile
 355 360 365
 Gln Trp His Pro Ser Thr Ala Asp Ile Glu Asp Leu Ala Thr Glu Pro
 370 375 380
 Lys Lys Leu Pro Phe Pro Leu Ser Thr Leu Ala Thr Ile Lys Asp Asp
 385 390 395 400
 Thr Ile Ala Thr Arg Ser Gly Ser Ser Asp Tyr Lys Asp Asp Asp Asp
 405 410 415
 Lys Gly Ser Ser His His His His His
 420 425

<210> 16
 <211> 387
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> fusion protein: human Nectin-3-beta-FLAGpolyHis
 <400> 16

Met Ala Arg Thr Pro Gly Pro Ser Pro Leu Cys Pro Gly Gly Gly Lys
 1 5 10 15

Ala Gln Leu Ser Ser Ala Ser Leu Leu Gly Ala Gly Leu Leu Leu Gln
 20 25 30

Pro Pro Thr Pro Pro Pro Leu Leu Leu Leu Phe Pro Leu Leu Leu
 35 40 45

Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro
 50 55 60

His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile
 65 70 75 80

Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly
 85 90 95

Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser
 100 105 110

Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu
 115 120 125

Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly
 130 135 140

Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser
 145 150 155 160

Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys
 165 170 175

Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile
 180 185 190

Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly
 195 200 205

Asp Leu Gly Glu Met Glu Ser Thr Thr Ser Phe Pro Asn Glu Thr
 210 215 220

Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240

Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255

Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270

Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285

Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Pro Phe Lys Ser Val Trp
 290 295 300

Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320

Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr
 325 330 335

Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350

Ile Tyr Ile Ser Asp Val Pro Phe Lys Gln Thr Ser Ser Arg Ser Gly
 355 360 365

Ser Ser Asp Tyr Lys Asp Asp Asp Lys Gly Ser Ser His His His
 370 375 380

His His His
 385

<210> 17
 <211> 549
 <212> PRT
 <213> mus musculus

<400> 17

Met Ala Arg Thr Pro Gly Pro Ala Pro Leu Cys Pro Gly Gly Lys
 1 5 10 15

Ala Gln Leu Ser Ser Ala Phe Pro Pro Ala Ala Gly Leu Leu Leu Pro
 20 25 30

Ala Pro Thr Pro Pro Pro Leu Leu Leu Leu Ile Pro Leu Leu Leu
 35 40 45

Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Ser Ile Ile Val Glu Pro
 50 55 60

His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile
 65 70 75 80

Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly
 85 90 95

Lys Ser Thr Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser
 100 105 110

Val Gln Gly Asp Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu
 115 120 125

Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly
 130 135 140

Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser
 145 150 155 160

Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys
 165 170 175

Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Val
 180 185 190

Cys Val Ala Ala Thr Gly Lys Pro Val Ala Gln Ile Asp Trp Glu Gly
 195 200 205

Asp Leu Gly Glu Met Glu Ser Ser Thr Thr Ser Phe Pro Asn Glu Thr
 210 215 220

Ala Thr Ile Val Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240

Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255

Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270

Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285

Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Pro Phe Lys Ser Val Trp
 290 295 300

Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320

Thr Leu His Phe Val His Pro Leu Thr Val Asn Tyr Ser Gly Val Tyr
 325 330 335

Val Cys Lys Val Ser Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350

Ile Tyr Ile Ser Asp Pro Pro Thr Thr Thr Leu Gln Pro Thr Val
 355 360 365

Gln Trp His Ser Ser Pro Ala Asp Val Gln Asp Ile Ala Thr Glu His
 370 375 380

Lys Lys Leu Pro Phe Pro Leu Ser Thr Leu Ala Thr Leu Lys Asp Asp
 385 390 395 400

Thr Ile Gly Thr Ile Ile Ala Ser Val Val Gly Gly Ala Leu Phe Leu
 405 410 415

Val Leu Val Ser Ile Leu Ala Gly Val Phe Cys Tyr Arg Arg Arg Arg
 420 425 430

Thr Phe Arg Gly Asp Tyr Phe Ala Lys Asn Tyr Ile Pro Pro Ser Asp
 435 440 445

Met Gln Lys Glu Ser Gln Ile Asp Val Leu His Gln Asp Glu Leu Asp
 450 455 460

Ser Tyr Pro Asp Ser Val Lys Lys Glu Asn Lys Asn Pro Val Asn Asn
 465 470 475 480

Leu Ile Arg Lys Asp Tyr Leu Glu Glu Pro Glu Lys Thr Gln Trp Asn
 485 490 495

Asn Val Glu Asn Leu Thr Arg Phe Glu Arg Pro Met Asp Tyr Tyr Glu
 500 505 510

Asp Leu Lys Met Gly Met Lys Phe Val Ser Asp Glu Arg Tyr Asn Glu
 515 520 525

Ser Glu Asp Gly Leu Val Ser His Val Asp Gly Ser Val Ile Ser Arg
 530 535 540

Arg Glu Trp Tyr Val
 545

<210> 18
 <211> 510
 <212> PRT
 <213> mus musculus

<400> 18

Met Ala Arg Thr Pro Gly Pro Ala Pro Leu Cys Pro Gly Gly Lys
 1 5 10 15

Ala Gln Leu Ser Ser Ala Phe Pro Pro Ala Ala Gly Leu Leu Leu Pro
 20 25 30

Ala Pro Thr Pro Pro Pro Leu Leu Leu Leu Ile Pro Leu Leu Leu
 35 40 45

Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Ser Ile Ile Val Glu Pro
 50 55 60

His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile
 65 70 75 80

Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly
 85 90 95

Lys Ser Thr Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser
 100 105 110

Val Gln Gly Asp Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu
 115 120 125

Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly
 130 135 140

Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser
 145 150 155 160

Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys
 165 170 175

Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Val
 180 185 190

Cys Val Ala Ala Thr Gly Lys Pro Val Ala Gln Ile Asp Trp Glu Gly
 195 200 205

Asp Leu Gly Glu Met Glu Ser Ser Thr Thr Ser Phe Pro Asn Glu Thr
 210 215 220

Ala Thr Ile Val Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240

Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255
 Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270
 Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285
 Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Phe Lys Ser Val Trp
 290 295 300
 Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320
 Thr Leu His Phe Val His Pro Leu Thr Val Asn Tyr Ser Gly Val Tyr
 325 330 335
 Val Cys Lys Val Ser Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350
 Ile Tyr Ile Ser Asp Ile Pro Leu Thr Gln Thr Ser Ser Ile Ala Val
 355 360 365
 Ala Gly Ala Val Ile Gly Ala Val Leu Ala Leu Phe Ile Ile Thr Val
 370 375 380
 Phe Val Thr Val Leu Leu Thr Pro Arg Lys Lys Arg Pro Ser Tyr Leu
 385 390 395 400
 Asp Lys Val Ile Asp Leu Pro Pro Thr His Lys Pro Pro Pro Val Tyr
 405 410 415
 Glu Glu Arg Ile Pro Ser Leu Pro Gln Lys Asp Leu Leu Gly Gln Thr
 420 425 430
 Glu His Leu Pro Leu Gln Thr Gln Phe Lys Glu Lys Gly Ala Gly Gly
 435 440 445
 Leu Gln Pro Ser Asn Gly Pro Ile Ser Arg Arg Phe Asp Tyr Glu Asp
 450 455 460
 Glu Ser Thr Met Gln Glu Asp Gly Thr Gln Arg Met Cys Pro Leu Tyr
 465 470 475 480
 Ser Gln Met Cys His Gln Asp Arg Ser Pro Arg Gln His His Pro Arg
 485 490 495
 Asn Pro Glu Arg Leu Tyr Ile Asn Pro Arg Glu His Tyr Val
 500 505 510

<210> 19
 <211> 438
 <212> PRT
 <213> mus musculus
 <400> 19

Met Ala Arg Thr Pro Gly Pro Ala Pro Leu Cys Pro Gly Gly Gly Lys
 1 5 10 15

Ala Gln Leu Ser Ser Ala Phe Pro Pro Ala Ala Gly Leu Leu Leu Pro
 20 25 30

Ala Pro Thr Pro Pro Leu Leu Leu Leu Ile Pro Leu Leu Leu
 35 40 45

Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Ser Ile Ile Val Glu Pro
 50 55 60

His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile
 65 70 75 80

Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly
 85 90 95

Lys Ser Thr Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser
 100 105 110

Val Gln Gly Asp Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu
 115 120 125

Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly
 130 135 140

Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser
 145 150 155 160

Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys
 165 170 175

Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Val
 180 185 190

Cys Val Ala Ala Thr Gly Lys Pro Val Ala Gln Ile Asp Trp Glu Gly
 195 200 205

Asp Leu Gly Glu Met Glu Ser Ser Thr Thr Ser Phe Pro Asn Glu Thr
 210 215 220

Ala Thr Ile Val Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240

Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255

Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270

Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285

Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Pro Phe Lys Ser Val Trp
 290 295 300

Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320

Thr Leu His Phe Val His Pro Leu Thr Val Asn Tyr Ser Gly Val Tyr
 325 330 335

Val Cys Lys Val Ser Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350

Ile Tyr Ile Ser Asp Ile Pro Leu Thr Gln Thr Ser Ser Ile Ala Val
 355 360 365

Ala Gly Ala Val Ile Gly Ala Val Leu Ala Leu Phe Ile Ile Thr Val
 370 375 380

Phe Val Thr Val Leu Leu Thr Pro Arg Lys Lys Arg Pro Ser Tyr Leu
 385 390 395 400

Asp Lys Val Ile Asp Leu Pro Pro Thr His Lys Pro Pro Pro Val Tyr
 405 410 415

Glu Glu Arg Ile Pro Ser Leu Pro Gln Lys Asp Leu Leu Gly Gln Val
 420 425 430

Arg Ala Leu Glu Asp Thr
 435

<210> 20

<211> 517

<212> PRT

<213> homo sapiens

<400> 20

Met Ala Arg Met Gly Leu Ala Gly Ala Ala Gly Arg Trp Trp Gly Leu
 1 5 10 15

Ala Leu Gly Leu Thr Ala Phe Phe Leu Pro Gly Val His Ser Gln Val
 20 25 30

Val Gln Val Asn Asp Ser Met Tyr Gly Phe Ile Gly Thr Asp Val Val
 35 40 45

Leu His Cys Ser Phe Ala Asn Pro Leu Pro Ser Val Lys Ile Thr Gln
 50 55 60

Val Thr Trp Gln Lys Ser Thr Asn Gly Ser Lys Gln Asn Val Ala Ile
 65 70 75 80

Tyr Asn Pro Ser Met Gly Val Ser Val Leu Ala Pro Tyr Arg Glu Arg
 85 90 95

Val Glu Phe Leu Arg Pro Ser Phe Thr Asp Gly Thr Ile Arg Leu Ser
 100 105 110

Arg Leu Glu Leu Glu Asp Glu Gly Val Tyr Ile Cys Glu Phe Ala Thr
 115 120 125

Phe Pro Thr Gly Asn Arg Glu Ser Gln Leu Asn Leu Thr Val Met Ala
 130 135 140

Lys Pro Thr Asn Trp Ile Glu Gly Thr Gln Ala Val Leu Arg Ala Lys
 145 150 155 160

Lys Gly Gln Asp Asp Lys Val Leu Val Ala Thr Cys Thr Ser Ala Asn
 165 170 175

Gly Lys Pro Pro Ser Val Val Ser Trp Glu Thr Arg Leu Lys Gly Glu
 180 185 190

Ala Glu Tyr Gln Glu Ile Arg Asn Pro Asn Gly Thr Val Thr Val Ile
 195 200 205

Ser Arg Tyr Arg Leu Val Pro Ser Arg Glu Ala His Gln Gln Ser Leu
 210 215 220

Ala Cys Ile Val Asn Tyr His Met Asp Arg Phe Lys Glu Ser Leu Thr
 225 230 235 240

Leu Asn Val Gln Tyr Glu Pro Glu Val Thr Ile Glu Gly Phe Asp Gly
 245 250 255

Asn Trp Tyr Leu Gln Arg Met Asp Val Lys Leu Thr Cys Lys Ala Asp
 260 265 270

Ala Asn Pro Pro Ala Thr Glu Tyr His Trp Thr Thr Leu Asn Gly Ser
 275 280 285

Leu Pro Lys Gly Val Glu Ala Gln Asn Arg Thr Leu Phe Phe Lys Gly
 290 295 300

Pro Ile Asn Tyr Ser Leu Ala Gly Thr Tyr Ile Cys Glu Ala Thr Asn
 305 310 315 320

Pro Ile Gly Thr Arg Ser Gly Gln Val Glu Val Asn Ile Thr Glu Phe
 325 330 335

Pro Tyr Thr Pro Ser Pro Pro Glu His Gly Arg Arg Ala Gly Pro Val
 340 345 350

Pro Thr Ala Ile Ile Gly Gly Val Ala Gly Ser Ile Leu Leu Val Leu
 355 360 365

Ile Val Val Gly Gly Ile Val Val Ala Leu Arg Arg Arg Arg His Thr
 370 375 380

Phe Lys Gly Asp Tyr Ser Thr Lys Lys His Val Tyr Gly Asn Gly Tyr
 385 390 395 400

Ser Lys Ala Gly Ile Pro Gln His His Pro Pro Met Ala Gln Asn Leu
 405 410 415

Gln Tyr Pro Asp Asp Ser Asp Asp Glu Lys Lys Ala Gly Pro Leu Gly
 420 425 430

Gly Ser Ser Tyr Glu Glu Glu Glu Glu Glu Glu Gly Gly Gly Gly
 435 440 445

Gly Glu Arg Lys Val Gly Gly Pro His Pro Lys Tyr Asp Glu Asp Ala
 450 455 460

Lys Arg Pro Tyr Phe Thr Val Asp Glu Ala Glu Ala Arg Gln Asp Gly
 465 470 475 480

Tyr Gly Asp Arg Thr Leu Gly Tyr Gln Tyr Asp Pro Glu Gln Leu Asp
 485 490 495

Leu Ala Glu Asn Met Val Ser Gln Asn Asp Gly Ser Phe Ile Ser Lys
 500 505 510

Lys Glu Trp Tyr Val
 515

<210> 21
 <211> 458
 <212> PRT
 <213> homo sapiens

<400> 21
 Met Ala Arg Met Gly Leu Ala Gly Ala Ala Gly Arg Trp Trp Gly Leu
 1 5 10 15

Ala Leu Gly Leu Thr Ala Phe Phe Leu Pro Gly Val His Ser Gln Val
 20 25 30

Val Gln Val Asn Asp Ser Met Tyr Gly Phe Ile Gly Thr Asp Val Val
 35 40 45

Leu His Cys Ser Phe Ala Asn Pro Leu Pro Ser Val Lys Ile Thr Gln
 50 55 60

Val Thr Trp Gln Lys Ser Thr Asn Gly Ser Lys Gln Asn Val Ala Ile
 65 70 75 80

Tyr Asn Pro Ser Met Gly Val Ser Val Leu Ala Pro Tyr Arg Glu Arg
 85 90 95

Val Glu Phe Leu Arg Pro Ser Phe Thr Asp Gly Thr Ile Arg Leu Ser
 100 105 110

Arg Leu Glu Leu Glu Asp Glu Gly Val Tyr Ile Cys Glu Phe Ala Thr
 115 120 125

Phe Pro Thr Gly Asn Arg Glu Ser Gln Leu Asn Leu Thr Val Met Ala
 130 135 140

Lys Pro Thr Asn Trp Ile Glu Gly Thr Gln Ala Val Leu Arg Ala Lys
 145 150 155 160

Lys Gly Gln Asp Asp Lys Val Leu Val Ala Thr Cys Thr Ser Ala Asn
 165 170 175

Gly Lys Pro Pro Ser Val Val Ser Trp Glu Thr Arg Leu Lys Gly Glu
 180 185 190

Ala Glu Tyr Gln Glu Ile Arg Asn Pro Asn Gly Thr Val Thr Val Ile
 195 200 205

Ser Arg Tyr Arg Leu Val Pro Ser Arg Glu Ala His Gln Gln Ser Leu
 210 215 220

Ala Cys Ile Val Asn Tyr His Met Asp Arg Phe Lys Glu Ser Leu Thr
 225 230 235 240

Leu Asn Val Gln Tyr Glu Pro Glu Val Thr Ile Glu Gly Phe Asp Gly
 245 250 255

Asn Trp Tyr Leu Gln Arg Met Asp Val Lys Leu Thr Cys Lys Ala Asp
 260 265 270

Ala Asn Pro Pro Ala Thr Glu Tyr His Trp Thr Thr Leu Asn Gly Ser
 275 280 285

Leu Pro Lys Gly Val Glu Ala Gln Asn Arg Thr Leu Phe Phe Lys Gly
 290 295 300

Pro Ile Asn Tyr Ser Leu Ala Gly Thr Tyr Ile Cys Glu Ala Thr Asn
 305 310 315 320

Pro Ile Gly Thr Arg Ser Gly Gln Val Glu Val Asn Ile Thr Glu Lys
 325 330 335

Pro Arg Pro Gln Arg Gly Leu Gly Ser Ala Ala Arg Leu Leu Ala Gly
 340 345 350

Thr Val Ala Val Phe Leu Ile Leu Val Ala Val Leu Thr Val Phe Phe
 355 360 365

Leu Tyr Asn Arg Gln Gln Lys Ser Pro Pro Glu Thr Asp Gly Ala Gly
 370 375 380

Thr Asp Gln Pro Leu Ser Gln Lys Pro Glu Pro Ser Pro Ser Arg Gln
 385 390 395 400

Ser Ser Leu Val Pro Glu Asp Ile Gln Val Val His Leu Asp Pro Gly
 405 410 415

Arg Gln Gln Gln Gln Glu Glu Glu Asp Leu Gln Lys Leu Ser Leu Gln
 420 425 430

Pro Pro Tyr Tyr Asp Leu Gly Val Ser Pro Ser Tyr His Pro Ser Val
 435 440 445

Arg Thr Thr Glu Pro Arg Gly Glu Cys Pro
 450 455

<210> 22
 <211> 479
 <212> PRT
 <213> homo sapiens

<400> 22
 Met Ala Arg Ala Ala Ala Leu Leu Pro Ser Arg Ser Pro Pro Thr Pro
 1 5 10 15

Leu Leu Trp Pro Leu Leu Leu Leu Leu Leu Glu Thr Gly Ala Gln
 20 25 30

Asp Val Arg Val Gln Val Leu Pro Glu Val Arg Gly Gln Leu Gly Gly
 35 40 45

Thr Val Glu Leu Pro Cys His Leu Leu Pro Pro Val Pro Gly Leu Tyr
 50 55 60

Ile Ser Leu Val Thr Trp Gln Arg Pro Asp Ala Pro Ala Asn His Gln
 65 70 75 80

Asn Val Ala Ala Phe His Pro Lys Met Gly Pro Ser Phe Pro Ser Pro
 85 90 95

Lys Pro Gly Ser Glu Arg Leu Ser Phe Val Ser Ala Lys Gln Ser Thr
 100 105 110

Gly Gln Asp Thr Glu Ala Glu Leu Gln Asp Ala Thr Leu Ala Leu His
 115 120 125

Gly Leu Thr Val Glu Asp Glu Gly Asn Tyr Thr Cys Glu Phe Ala Thr
 130 135 140

Phe Pro Lys Gly Ser Val Arg Gly Met Thr Trp Leu Arg Val Ile Ala
 145 150 155 160

Lys Pro Lys Asn Gln Ala Glu Ala Gln Lys Val Thr Phe Ser Gln Asp
 165 170 175

Pro Thr Thr Val Ala Leu Cys Ile Ser Lys Glu Gly Arg Pro Pro Ala
 180 185 190

Arg Ile Ser Trp Leu Ser Ser Leu Asp Trp Glu Ala Lys Glu Thr Gln
 195 200 205

Val Ser Gly Thr Leu Ala Gly Thr Val Thr Val Thr Ser Arg Phe Thr
 210 215 220

Leu Val Pro Ser Gly Arg Ala Asp Gly Val Thr Val Thr Cys Lys Val
 225 230 235 240

Glu His Glu Ser Phe Glu Glu Pro Ala Leu Ile Pro Val Thr Leu Ser
 245 250 255

Val Arg Tyr Pro Pro Glu Val Ser Ile Ser Gly Tyr Asp Asp Asn Trp
 260 265 270

Tyr Leu Gly Arg Thr Asp Ala Thr Leu Ser Cys Asp Val Arg Ser Asn
 275 280 285

Pro Glu Pro Thr Gly Tyr Asp Trp Ser Thr Thr Ser Gly Thr Phe Pro
 290 295 300

Thr Ser Ala Val Ala Gln Gly Ser Gln Leu Val Ile His Ala Val Asp
 305 310 315 320

Ser Leu Phe Asn Thr Thr Phe Val Cys Thr Val Thr Asn Ala Val Gly
 325 330 335

Met Gly Arg Ala Glu Gln Val Ile Phe Val Arg Glu Thr Pro Arg Ala
 340 345 350

Ser Pro Arg Asp Val Gly Pro Leu Val Trp Gly Ala Val Gly Gly Thr
 355 360 365

Leu Leu Val Leu Leu Leu Ala Gly Gly Ser Leu Ala Phe Ile Leu
 370 375 380

Leu Arg Val Arg Arg Arg Lys Ser Pro Gly Gly Ala Gly Gly Gly
 385 390 395 400

Ala Ser Gly Asp Gly Gly Phe Tyr Asp Pro Lys Ala Gln Val Leu Gly
 405 410 415

Asn Gly Asp Pro Val Phe Trp Thr Pro Val Val Pro Gly Pro Met Glu
 420 425 430

Pro Asp Gly Lys Asp Glu Glu Glu Glu Glu Glu Lys Ala Glu
 435 440 445

Lys Gly Leu Met Leu Pro Pro Pro Ala Leu Glu Asp Asp Met Glu
 450 455 460

Ser Gln Leu Asp Gly Ser Leu Ile Ser Arg Arg Ala Val Tyr Val
 465 470 475

<210> 23
 <211> 538
 <212> PRT
 <213> homo sapiens

<400> 23
 Met Ala Arg Ala Ala Ala Leu Leu Pro Ser Arg Ser Pro Pro Thr Pro
 1 5 10 15

Leu Leu Trp Pro Leu Leu Leu Leu Leu Leu Glu Thr Gly Ala Gln
 20 25 30

Asp Val Arg Val Gln Val Leu Pro Glu Val Arg Gly Gln Leu Gly Gly
 35 40 45

Thr Val Glu Leu Pro Cys His Leu Leu Pro Pro Val Pro Gly Leu Tyr
 50 55 60

Ile Ser Leu Val Thr Trp Gln Arg Pro Asp Ala Pro Ala Asn His Gln
 65 70 75 80

Asn Val Ala Ala Phe His Pro Lys Met Gly Pro Ser Phe Pro Ser Pro
 85 90 95

Lys Pro Gly Ser Glu Arg Leu Ser Phe Val Ser Ala Lys Gln Ser Thr
 100 105 110

Gly Gln Asp Thr Glu Ala Glu Leu Gln Asp Ala Thr Leu Ala Leu His
 115 120 125

Gly Leu Thr Val Glu Asp Glu Gly Asn Tyr Thr Cys Glu Phe Ala Thr
 130 135 140

Phe Pro Lys Gly Ser Val Arg Gly Met Thr Trp Leu Arg Val Ile Ala
 145 150 155 160
 Lys Pro Lys Asn Gln Ala Glu Ala Gln Lys Val Thr Phe Ser Gln Asp
 165 170 175
 Pro Thr Thr Val Ala Leu Cys Ile Ser Lys Glu Gly Arg Pro Pro Ala
 180 185 190
 Arg Ile Ser Trp Leu Ser Ser Leu Asp Trp Glu Ala Lys Glu Thr Gln
 195 200 205
 Val Ser Gly Thr Leu Ala Gly Thr Val Thr Val Thr Ser Arg Phe Thr
 210 215 220
 Leu Val Pro Ser Gly Arg Ala Asp Gly Val Thr Val Thr Cys Lys Val
 225 230 235 240
 Glu His Glu Ser Phe Glu Glu Pro Ala Leu Ile Pro Val Thr Leu Ser
 245 250 255
 Val Arg Tyr Pro Pro Glu Val Ser Ile Ser Gly Tyr Asp Asp Asn Trp
 260 265 270
 Tyr Leu Gly Arg Thr Asp Ala Thr Leu Ser Cys Asp Val Arg Ser Asn
 275 280 285
 Pro Glu Pro Thr Gly Tyr Asp Trp Ser Thr Thr Ser Gly Thr Phe Pro
 290 295 300
 Thr Ser Ala Val Ala Gln Gly Ser Gln Leu Val Ile His Ala Val Asp
 305 310 315 320
 Ser Leu Phe Asn Thr Thr Phe Val Cys Thr Val Thr Asn Ala Val Gly
 325 330 335
 Met Gly Arg Ala Glu Gln Val Ile Phe Val Arg Glu Thr Pro Asn Thr
 340 345 350
 Ala Gly Ala Gly Ala Thr Gly Gly Ile Ile Gly Gly Ile Ile Ala Ala
 355 360 365
 Ile Ile Ala Thr Ala Val Ala Ala Thr Gly Ile Leu Ile Cys Arg Gln
 370 375 380
 Gln Arg Lys Glu Gln Thr Leu Gln Gly Ala Glu Glu Asp Glu Asp Leu
 385 390 395 400
 Glu Gly Pro Pro Ser Tyr Lys Pro Pro Thr Pro Lys Ala Lys Leu Glu
 405 410 415
 Ala Gln Glu Met Pro Ser Gln Leu Phe Thr Leu Gly Ala Ser Glu His
 420 425 430
 Ser Pro Leu Lys Thr Pro Tyr Phe Asp Ala Gly Ala Ser Cys Thr Glu
 435 440 445
 Gln Glu Met Pro Arg Tyr His Glu Leu Pro Thr Leu Glu Glu Arg Ser
 450 455 460

Gly Pro Leu His Pro Gly Ala Thr Ser Leu Gly Ser Pro Ile Pro Val
 465 470 475 480

Pro Pro Gly Pro Pro Ala Val Glu Asp Val Ser Leu Asp Leu Glu Asp
 485 490 495

Glu Glu Gly Glu Glu Glu Glu Tyr Leu Asp Lys Ile Asn Pro Ile
 500 505 510

Tyr Asp Ala Leu Ser Tyr Ser Ser Pro Ser Asp Ser Tyr Gln Gly Lys
 515 520 525

Gly Phe Val Met Ser Arg Ala Met Tyr Val
 530 535

<210> 24

<211> 510

<212> PRT

<213> homo sapiens

<400> 24

Met Pro Leu Ser Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu
 1 5 10 15

Leu Leu Leu Leu Leu Ala Ser Phe Thr Gly Arg Cys Pro Ala Gly
 20 25 30

Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala
 35 40 45

Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln
 50 55 60

Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu Ala
 65 70 75 80

Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu Gly
 85 90 95

Arg Val Glu Gln Pro Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser Val
 100 105 110

Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys Arg
 115 120 125

Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu Arg
 130 135 140

Val Met Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu Glu
 145 150 155 160

Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly Ser
 165 170 175

Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr Ser
 180 185 190

Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu Phe
 195 200 205

His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys Val
 210 215 220

Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile Leu
 225 230 235 240

His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp Gln
 245 250 255

Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu Ser
 260 265 270

Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly Pro
 275 280 285

Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro Pro
 290 295 300

Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn Glu
 305 310 315 320

Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Asp Pro Gln
 325 330 335

Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala Ser Val Val Val
 340 345 350

Val Gly Val Ile Ala Ala Leu Leu Phe Cys Leu Leu Val Val Val Val
 355 360 365

Val Leu Met Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr Gln
 370 375 380

Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg Arg
 385 390 395 400

Leu His Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser Val
 405 410 415

Gly Leu Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser Ser
 420 425 430

Cys Ser Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr Leu
 435 440 445

Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro Gly
 450 455 460

Ser Gly Arg Ala Glu Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys Gln
 465 470 475 480

Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys Pro
 485 490 495

Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
 500 505 510

<210> 25
 <211> 417
 <212> PRT
 <213> homo sapiens

<400> 25
 Met Ala Arg Ala Met Ala Ala Ala Trp Pro Leu Leu Leu Val Ala Leu
 1 5 10 15
 Leu Val Leu Ser Trp Pro Pro Pro Gly Thr Gly Asp Val Val Val Gln
 20 25 30
 Ala Pro Thr Gln Val Pro Gly Phe Leu Gly Asp Ser Val Thr Leu Pro
 35 40 45
 Cys Tyr Leu Gln Val Pro Asn Met Glu Val Thr His Val Ser Gln Leu
 50 55 60
 Thr Trp Ala Arg His Gly Glu Ser Gly Ser Met Ala Val Phe His Gln
 65 70 75 80
 Thr Gln Gly Pro Ser Tyr Ser Glu Ser Lys Arg Leu Glu Phe Val Ala
 85 90 95
 Ala Arg Leu Gly Ala Glu Leu Arg Asn Ala Ser Leu Arg Met Phe Gly
 100 105 110
 Leu Arg Val Glu Asp Glu Gly Asn Tyr Thr Cys Leu Phe Val Thr Phe
 115 120 125
 Pro Gln Gly Ser Arg Ser Val Asp Ile Trp Leu Arg Val Leu Ala Lys
 130 135 140
 Pro Gln Asn Thr Ala Glu Val Gln Lys Val Gln Leu Thr Gly Glu Pro
 145 150 155 160
 Val Pro Met Ala Arg Cys Val Ser Thr Gly Gly Arg Pro Pro Ala Gln
 165 170 175
 Ile Thr Trp His Ser Asp Leu Gly Gly Met Pro Asn Thr Ser Gln Val
 180 185 190
 Pro Gly Phe Leu Ser Gly Thr Val Thr Val Thr Ser Leu Trp Ile Leu
 195 200 205
 Val Pro Ser Ser Gln Val Asp Gly Lys Asn Val Thr Cys Lys Val Glu
 210 215 220
 His Glu Ser Phe Glu Lys Pro Gln Leu Leu Thr Val Asn Leu Thr Val
 225 230 235 240
 Tyr Tyr Pro Pro Glu Val Ser Ile Ser Gly Tyr Asp Asn Asn Trp Tyr
 245 250 255
 Leu Gly Gln Asn Glu Ala Thr Leu Thr Cys Asp Ala Arg Ser Asn Pro
 260 265 270
 Glu Pro Thr Gly Tyr Asn Trp Ser Thr Thr Met Gly Pro Leu Pro Pro
 275 280 285

Phe Ala Val Ala Gln Gly Ala Gln Leu Leu Ile Arg Pro Val Asp Lys
 290 295 300

Pro Ile Asn Thr Thr Leu Ile Cys Asn Val Thr Asn Ala Leu Gly Ala
 305 310 315 320

Arg Gln Ala Glu Leu Thr Val Gln Val Lys Glu Gly Pro Pro Ser Glu
 325 330 335

His Ser Gly Ile Ser Arg Asn Ala Ile Ile Phe Leu Val Leu Gly Ile
 340 345 350

Leu Val Phe Leu Ile Leu Leu Gly Ile Gly Ile Tyr Phe Tyr Trp Ser
 355 360 365

Lys Cys Ser Arg Glu Val Leu Trp His Cys His Leu Cys Pro Ser Ser
 370 375 380

Thr Glu His Ala Ser Ala Ser Ala Asn Gly His Val Ser Tyr Ser Ala
 385 390 395 400

Val Ser Arg Glu Asn Ser Ser Ser Gln Asp Pro Gln Thr Glu Gly Thr
 405 410 415

Arg

<210> 26
 <211> 54
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 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer

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<210> 27
 <211> 32
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer

<400> 27
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32

<210> 28
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 <212> DNA
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<220>
 <223> Oligonucleotide Primer

<400> 28
 ccctcaactg ctgacatcga 20

<210> 29
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Oligonucleotide Primer

<400> 29
 tgatcgtggc aattgtgtca t 21

<210> 30
 <211> 1314
 <212> DNA
 <213> homo sapiens

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 <221> CDS
 <222> (1)..(1314)
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 Met Ala Arg Thr Leu Arg Pro Ser Pro Leu Cys Pro Gly Gly Gly Lys
 1 5 10 15

gca caa ctt tcc tcc gct tct ctc ctc gga gcc ggg ctc ctg ctg cag 96
 Ala Gln Leu Ser Ser Ala Ser Leu Leu Gly Ala Gly Leu Leu Leu Gln
 20 25 30

ccc ccg acg cca cct ccg ctg ctg ctg ctc ttc ccg ctg ctg ctc 144
 Pro Pro Thr Pro Pro Leu Leu Leu Leu Phe Pro Leu Leu Leu
 35 40 45

ttc tcc agg ctc tgt ggt gcc tta gct gga cca att att gtg gag cca 192
 Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro
 50 55 60

cat gtc aca gca gta tgg gga aag aat gtt tca tta aag tgt tta att 240
 His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile
 65 70 75 80

gaa gta aat gaa acc ata aca cag att tca tgg gag aag ata cat ggc 288
 Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly
 85 90 95

aaa agt tca cag act gtt gca gtt cac cat ccc caa tat gga ttc tct 336
 Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser
 100 105 110

gtt caa gga gaa tat cag gga aga gtc ttg ttt aaa aat tac tca ctt 384
 Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu
 115 120 125

aat gat gca aca att act ctg cat aac ata gga ttc tct gat tct gga		432	
Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly			
130	135	140	
aaa tac atc tgc aaa gct gtt aca ttc ccg ctt gga aat gcc cag tcc		480	
Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser			
145	150	155	160
tct aca act gta act gtg tta gtt gaa ccc act gtg agc ctg ata aaa		528	
Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys			
165	170	175	
ggg cca gat tct tta att gat gga gga aat gaa aca gta gca gcc att		576	
Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile			
180	185	190	
tgc atc gca gcc act gga aaa ccc gtt gca cat att gac tgg gaa ggt		624	
Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly			
195	200	205	
gat ctt ggt gaa atg gaa tcc act aca act tct ttt cca aat gaa acg		672	
Asp Leu Gly Glu Met Glu Ser Thr Thr Ser Phe Pro Asn Glu Thr			
210	215	220	
gca acg att atc agc cag tac aag cta ttt cca acc aga ttt gct aga		720	
Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg			
225	230	235	240
gga agg cga att act tgt gtt gta aaa cat cca gcc ttg gaa aag gac		768	
Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp			
245	250	255	
atc cga tac tct ttc ata tta gac ata cag tat gct cct gaa gtt tcg		816	
Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser			
260	265	270	
gta aca gga tat gat gga aat tgg ttt gta gga aga aaa ggt gtt aat		864	
Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn			
275	280	285	
ctc aaa tgt aat gct gat gca aat cca cca ccc ttc aaa tct gtg tgg		912	
Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Phe Lys Ser Val Trp			
290	295	300	
agc agg ttg gat gga caa tgg cct gat ggt tta ttg gct tca gac aat		960	
Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn			
305	310	315	320
act ctt cat ttt gtc cat cca ttg act ttc aat tat tct ggt gtt tat		1008	
Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr			
325	330	335	
atc tgt aaa gtg acc aat tcc ctt ggt caa aga agt gac caa aaa gtc		1056	
Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val			
340	345	350	
atc tac att tca gat gtt cca ttt aag cag acc tct tcc ata gct gta		1104	
Ile Tyr Ile Ser Asp Val Pro Phe Lys Gln Thr Ser Ser Ile Ala Val			
355	360	365	

gct gga gcg gta att gga gct gtt ctt gcc ctt ttc atc att gct atc Ala Gly Ala Val Ile Gly Ala Val Leu Ala Leu Phe Ile Ile Ala Ile 370 375 380	1152
ttt gtg act gtg ctg ctg act cct cga aaa aaa aga cca tcc tat ctt Phe Val Thr Val Leu Leu Thr Pro Arg Lys Lys Arg Pro Ser Tyr Leu 385 390 395 400	1200
gac aaa gtg att gac ctt cca ccc aca cat aaa cca cct cct ctg tat Asp Lys Val Ile Asp Leu Pro Pro Thr His Lys Pro Pro Pro Leu Tyr 405 410 415	1248
gaa gaa cga tcc cca cct ttg cct cag aaa gac cta ttt cag gta tgt Glu Glu Arg Ser Pro Pro Leu Pro Gln Lys Asp Leu Phe Gln Val Cys 420 425 430	1296
gtt cat gag tac act taa Val His Glu Tyr Thr 435	1314
<p><210> 31 <211> 437 <212> PRT <213> homo sapiens</p> <p><400> 31 Met Ala Arg Thr Leu Arg Pro Ser Pro Leu Cys Pro Gly Gly Gly Lys 1 5 10 15</p> <p>Ala Gln Leu Ser Ser Ala Ser Leu Leu Gly Ala Gly Leu Leu Gln 20 25 30</p> <p>Pro Pro Thr Pro Pro Leu Leu Leu Leu Phe Pro Leu Leu Leu 35 40 45</p> <p>Phe Ser Arg Leu Cys Gly Ala Leu Ala Gly Pro Ile Ile Val Glu Pro 50 55 60</p> <p>His Val Thr Ala Val Trp Gly Lys Asn Val Ser Leu Lys Cys Leu Ile 65 70 75 80</p> <p>Glu Val Asn Glu Thr Ile Thr Gln Ile Ser Trp Glu Lys Ile His Gly 85 90 95</p> <p>Lys Ser Ser Gln Thr Val Ala Val His His Pro Gln Tyr Gly Phe Ser 100 105 110</p> <p>Val Gln Gly Glu Tyr Gln Gly Arg Val Leu Phe Lys Asn Tyr Ser Leu 115 120 125</p> <p>Asn Asp Ala Thr Ile Thr Leu His Asn Ile Gly Phe Ser Asp Ser Gly 130 135 140</p> <p>Lys Tyr Ile Cys Lys Ala Val Thr Phe Pro Leu Gly Asn Ala Gln Ser 145 150 155 160</p> <p>Ser Thr Thr Val Thr Val Leu Val Glu Pro Thr Val Ser Leu Ile Lys 165 170 175</p>	

Gly Pro Asp Ser Leu Ile Asp Gly Gly Asn Glu Thr Val Ala Ala Ile
 180 185 190

Cys Ile Ala Ala Thr Gly Lys Pro Val Ala His Ile Asp Trp Glu Gly
 195 200 205

Asp Leu Gly Glu Met Glu Ser Thr Thr Ser Phe Pro Asn Glu Thr
 210 215 220

Ala Thr Ile Ile Ser Gln Tyr Lys Leu Phe Pro Thr Arg Phe Ala Arg
 225 230 235 240

Gly Arg Arg Ile Thr Cys Val Val Lys His Pro Ala Leu Glu Lys Asp
 245 250 255

Ile Arg Tyr Ser Phe Ile Leu Asp Ile Gln Tyr Ala Pro Glu Val Ser
 260 265 270

Val Thr Gly Tyr Asp Gly Asn Trp Phe Val Gly Arg Lys Gly Val Asn
 275 280 285

Leu Lys Cys Asn Ala Asp Ala Asn Pro Pro Pro Phe Lys Ser Val Trp
 290 295 300

Ser Arg Leu Asp Gly Gln Trp Pro Asp Gly Leu Leu Ala Ser Asp Asn
 305 310 315 320

Thr Leu His Phe Val His Pro Leu Thr Phe Asn Tyr Ser Gly Val Tyr
 325 330 335

Ile Cys Lys Val Thr Asn Ser Leu Gly Gln Arg Ser Asp Gln Lys Val
 340 345 350

Ile Tyr Ile Ser Asp Val Pro Phe Lys Gln Thr Ser Ser Ile Ala Val
 355 360 365

Ala Gly Ala Val Ile Gly Ala Val Leu Ala Leu Phe Ile Ile Ala Ile
 370 375 380

Phe Val Thr Val Leu Leu Thr Pro Arg Lys Lys Arg Pro Ser Tyr Leu
 385 390 395 400

Asp Lys Val Ile Asp Leu Pro Pro Thr His Lys Pro Pro Pro Leu Tyr
 405 410 415

Glu Glu Arg Ser Pro Pro Leu Pro Gln Lys Asp Leu Phe Gln Val Cys
 420 425 430

Val His Glu Tyr Thr
 435

<210> 32
 <211> 1533
 <212> DNA
 <213> homo sapiens

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actgtggtgc tgggccagga cgcaaaactg ccctgcttct accgagggga ctccggcgag 180
 caagtgggc aagtggcatg ggctcgggtg gacgcggcg aaggcgccca ggaactagcg 240
 ctactgcact ccaaatacgg gcttcatgtg agcccggtt acgagggccg cgtggagcag 300
 cccgcgcggcc cacgcaaccc cctggacggc tcagtgtcc tgcgcaacgc agtgcaggcg 360
 gatgagggcg agtacgagtg ccgggtcagc accttccccg ccggcagctt ccaggcgccg 420
 ctgcggctcc gagtgatggt gcctccctg ccctcaactga atcctggtcc agcactagaa 480
 gaggggccagg gcctgaccct ggcagcctcc tgcacagctg agggcagccc agcccccagc 540
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 tctgctgccc tcacctcaga gttccacttg gtgcctagcc gcagcatgaa tggcagcca 660
 ctgacttgc tgggtccca tcctggcctg ctccaggacc aaaggatcac ccacatcctc 720
 cacgtgtcct tccttgctga ggcctctgtg aggggccttg aagacaaaaa tctgtggcac 780
 attggcagag aaggagctat gctcaagtgc ctgagtgaa ggcagcccccc tccctcatac 840
 aactggacac ggctggatgg gcctctgccc agtgggtac gagtgatgg ggacactttg 900
 ggcttcccc cactgaccac tgagcacagc ggcacatctacg tctgcacatgt cagcaatgag 960
 ttctcctcaa gggattctca ggtcaactgtg gatgttcttg acccccaagga agactctggg 1020
 aagcaggtgg acctagtgac agcctcggtg gtgggtgggt gggtgatcgc cgcaactttg 1080
 ttctgccttc tgggtgggtt ggtgggtgtc atgtcccgtt accatcggcg caaggcccag 1140
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 ctgcattccc atcacacgga ccccaggagc cagccggagg agagtgtagg gctgagagcc 1260
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 ctgtctccag gctctggcg ggccgaggag gaggaagatc agatgaagg catcaaacag 1440
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 atctacatca atggcgcccc acacctggc tga 1533

<210> 33
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 <213> homo sapiens

<220>
 <221> CDS
 <222> (61)..(1596)
 <223>

<400> 33

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atg ccc ctg tcc ctg gga gcc gag atg tgg ggg cct gag gcc tgg ctg 108
 Met Pro Leu Ser Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu
 1 5 10 15

ctg ccg ctg cta ctg gca tca ttt aca ggc cgg tgc ccc gcg ggt 156
 Leu Pro Leu Leu Leu Ala Ser Phe Thr Gly Arg Cys Pro Ala Gly
 20 25 30

gag ctg gag acc tca gac gtg gta act gtg gtg ctg ggc cag gac gca 204
 Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala
 35 40 45

aaa ctg ccc tgc ttc tac cga ggg gac tcc ggc gag caa gtg ggg caa 252
 Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln
 50 55 60

gtg gca tgg gct cgg gtg gac gcg ggc gaa ggc gcc cag gaa cta gcg 300
 Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu Ala
 65 70 75 80

cta ctg cac tcc aaa tac ggg ctt cat gtg agc ccg gct tac gag ggc 348
 Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu Gly
 85 90 95

 cgc gtg gag cag ccg ccc cca cgc aac ccc ctg gac ggc tca gtg 396
 Arg Val Glu Gln Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser Val
 100 105 110

 ctc ctg cgc aac gca gtg cag gcg gat gag ggc gag tac gag tgc cgg 444
 Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys Arg
 115 120 125

 gtc agc acc ttc ccc gcc ggc agc ttc cag gcg cgg ctg cgg ctc cga 492
 Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu Arg
 130 135 140

 gtg ctg gtg cct ccc ctg ccc tcg ctg aat cct ggt cca gca cta gaa 540
 Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu Glu
 145 150 155 160

 gag ggc cag ggc ctg acc ctg gca gcc tcc tgc aca gct gag ggc agc 588
 Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly Ser
 165 170 175

 cca gcc ccc agc gtg acc tgg gac acg gag gtc aaa ggc aca acg tcc 636
 Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr Ser
 180 185 190

 agc cgt tcc ttc aag cac tcc cgc tct gct gcc gtc acc tca gag ttc 684
 Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu Phe
 195 200 205

 cac ttg gtg cct agc cgc agc atg aat ggg cag cca ctg act tgt gtg 732
 His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys Val
 210 215 220

 gtg tcc cat cct ggc ctg ctc cag gac caa agg atc acc cac atc ctc 780
 Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile Leu
 225 230 235 240

 cac gtg tcc ttc ctt gct gag gcc tct gtg agg ggc ctt gaa gac caa 828
 His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp Gln
 245 250 255

 aat ctg tgg cac att ggc aga gaa gga gct atg ctc aag tgc ctg agt 876
 Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu Ser
 260 265 270

 gaa ggg cag ccc cct ccc tca tac aac tgg aca cgg ctg gat ggg cct 924
 Glu Gly Gln Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly Pro
 275 280 285

 ctg ccc agt ggg gta cga gtg gat ggg gac act ttg ggc ttt ccc cca 972
 Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro Pro
 290 295 300

 ctg acc act gag cac agc ggc atc tac gtc tgc cat gtc agc aat gag 1020
 Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn Glu
 305 310 315 320

ttc tcc tca agg gat tct cag gtc act gtg gat gtt ctt gca gac ccc		1068	
Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Ala Asp Pro			
325	330	335	
cag gaa gac tct ggg aag cag gtg gac cta gtg tca gcc tcg gtg gtg		1116	
Gln Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala Ser Val Val			
340	345	350	
gtg gtg ggt gtg atc gcc gca ctc ttg ttc tgc ctt ctg gtg gtg gtg		1164	
Val Val Gly Val Ile Ala Ala Leu Leu Phe Cys Leu Leu Val Val Val			
355	360	365	
gtg gtg ctc atg tcc cga tac cat cgg cgc aag gcc cag cag atg acc		1212	
Val Val Leu Met Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr			
370	375	380	
cag aaa tat gag gag gag ctg acc ctg acc agg gag aac tcc atc cgg		1260	
Gln Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg			
385	390	395	400
agg ctg cat tcc cat cac acg gac ccc agg agc cag ccg gag gag agt		1308	
Arg Leu His Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser			
405	410	415	
gta ggg ctg aga gcc gag ggc cac cct gat agt ctc aag gac aac agt		1356	
Val Gly Leu Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser			
420	425	430	
agc tgc tct gtg atg agt gaa gag ccc gag ggc cgc agt tac tcc acg		1404	
Ser Cys Ser Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr			
435	440	445	
ctg acc acg gtg agg gag ata gaa aca cag act gaa ctg ctg tct cca		1452	
Leu Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro			
450	455	460	
ggc tct ggg cgg gcc gag gag gag gaa gat cag gat gaa ggc atc aaa		1500	
Gly Ser Gly Arg Ala Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys			
465	470	475	480
cag gcc atg aac cat ttt gtt cag gag aat ggg acc cta cgg gcc aag		1548	
Gln Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys			
485	490	495	
ccc acg ggc aat ggc atc tac atc aat ggg cgg gga cac ctg gtc tga		1596	
Pro Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val			
500	505	510	
ccgcggccgc atataatcac tagtgaattc gcggccgcct gcaggtcgac catatggag		1656	
agct		1660	

<210> 34
<211> 511
<212> PRT
<213> home, companion

<400> 34

Met Pro Leu Ser Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu
 1 5 10 15

Leu Pro Leu Leu Leu Ala Ser Phe Thr Gly Arg Cys Pro Ala Gly
 20 25 30

Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala
 35 40 45

Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln
 50 55 60

Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu Ala
 65 70 75 80

Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu Gly
 85 90 95

Arg Val Glu Gln Pro Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser Val
 100 105 110

Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys Arg
 115 120 125

Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu Arg
 130 135 140

Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu Glu
 145 150 155 160

Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly Ser
 165 170 175

Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr Ser
 180 185 190

Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu Phe
 195 200 205

His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys Val
 210 215 220

Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile Leu
 225 230 235 240

His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp Gln
 245 250 255

Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu Ser
 260 265 270

Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly Pro
 275 280 285

Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro Pro
 290 295 300

Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn Glu
 305 310 315 320

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Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Ala Asp Pro
 325 330 335
 Gln Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala Ser Val Val
 340 345 350
 Val Val Gly Val Ile Ala Ala Leu Leu Phe Cys Leu Leu Val Val Val
 355 360 365
 Val Val Leu Met Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr
 370 375 380
 Gln Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg
 385 390 395 400
 Arg Leu His Ser His His Thr Asp Pro Arg Ser Gln Pro Glu Glu Ser
 405 410 415
 Val Gly Leu Arg Ala Glu Gly His Pro Asp Ser Leu Lys Asp Asn Ser
 420 425 430
 Ser Cys Ser Val Met Ser Glu Glu Pro Glu Gly Arg Ser Tyr Ser Thr
 435 440 445
 Leu Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu Ser Pro
 450 455 460
 Gly Ser Gly Arg Ala Glu Glu Glu Asp Gln Asp Glu Gly Ile Lys
 465 470 475 480
 Gln Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg Ala Lys
 485 490 495
 Pro Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu Val
 500 505 510

<210> 35
 <211> 1838
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Fusion Construct

<220>
 <221> CDS
 <222> (58)..(1800)
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 Met Pro Leu Ser Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu
 5 10 15
 ctg ccg ctg cta ctg ctg gca tca ttt aca ggc cgg tgc ccc gcg ggt 153
 Leu Pro Leu Leu Leu Ala Ser Phe Thr Gly Arg Cys Pro Ala Gly
 20 25 30

gag ctg gag acc tca gac gtg gta act gtg gtg ctg ggc cag gac gca Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala 35 40 45	201
aaa ctg ccc tgc ttc tac cga ggg gac tcc ggc gag caa gtg ggg caa Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln 50 55 60	249
gtg gca tgg gct cgg gtg gac gcg ggc gaa ggc gcc cag gaa cta gcg Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu Ala 65 70 75 80	297
cta ctg cac tcc aaa tac ggg ctt cat gtg agc ccg gct tac gag ggc Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu Gly 85 90 95	345
cgc gtg gag cag ccg ccc cca cgc aac ccc ctg gac ggc tca gtg Arg Val Glu Gln Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser Val 100 105 110	393
ctc ctg cgc aac gca gtg cag gcg gat gag ggc gag tac gag tgc cgg Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys Arg 115 120 125	441
gtc agc acc ttc ccc gcc ggc agc ttc cag gcg cgg cta cgg ctc cga Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu Arg 130 135 140	489
gtg ctg gtg cct ccc ctg ccc tcg ctg aat cct ggt cca gca cta gaa Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu Glu 145 150 155 160	537
gag ggc cag ggc ctg acc ctg gca gcc tcc tgc aca gct gag ggc agc Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly Ser 165 170 175	585
cca gcc ccc agc gtg acc tgg gac acg gag gtc aaa ggc aca acg tcc Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr Ser 180 185 190	633
agc cgt tcc ttc aag cac tcc cgc tct gct gcc gtc acc tca gag ttc Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu Phe 195 200 205	681
cac ttg gtg cct agc cgc agc atg aat ggg cag cca ctg act tgt gtg His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys Val 210 215 220	729
gtg tcc cat cct ggc ctg ctc cag gac caa agg atc acc cac atc ctc Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile Leu 225 230 235 240	777
cac gtg tcc ttc ctt gct gag gcc tct gtc agg ggc ctt gaa gac caa His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp Gln 245 250 255	825
aat ctg tgg cac att ggc aga gaa gga gct atg ctc aag tgc ctg agt Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu Ser 260 265 270	873

gaa ggg cag ccc cct ccc tca tac aac tgg aca cgg ctg gat ggg cct 921
 Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly Pro
 275 280 285

ctg ccc agt ggg gta cga gtg gat ggg gac act ttg ggc ttt ccc cca 969
 Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro Pro
 290 295 300

ctg acc act gag cac agc ggc atc tac gtc tgc cat gtc agc aat gag 1017
 Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn Glu
 305 310 315 320

ttc tcc tca agg gat tct cag gtc act gtg gat gtt ctt gca gac ccc 1065
 Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Ala Asp Pro
 325 330 335

cag gaa gac tct ggg aag cag gtg gac cta gtg tca gcc tcg aga tct 1113
 Gln Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala Ser Arg Ser
 340 345 350

tgt gac aaa act cac aca tgc cca ccg tgc cca gca cct gaa gcc gag 1161
 Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Glu
 355 360 365

ggc gcg ccg tca gtc ttc ctc ttc ccc cca aaa ccc aag gac acc ctc 1209
 Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
 370 375 380

atg atc tcc cgg acc cct gag gtc aca tgc gtg gtg gac gtg agc 1257
 Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
 385 390 395 400

cac gaa gac cct gag gtc aag ttc aac tgg tac gtg gac ggc gtg gag 1305
 His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
 405 410 415

gtg cat aat gcc aag aca aag ccg ccg gag gag cag tac aac agc acg 1353
 Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
 420 425 430

tac cgt gtg gtc agc gtc ctc acc gtc ctg cac cag gac tgg ctg aat 1401
 Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
 435 440 445

ggc aag gag tac aag tgc aag gtc tcc aac aaa gcc ctc cca gcc ccc 1449
 Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
 450 455 460

atc gag aaa acc atc tcc aaa gcc aaa ggg cag ccc cga gaa cca cag 1497
 Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
 465 470 475 480

gtg tac acc ctg ccc cca tcc cgg gag gag atg acc aag aac cag gtc 1545
 Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
 485 490 495

agc ctg acc tgc ctg gtc aaa ggc ttc tat ccc agc gac atc gcc gtg 1593
 Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
 500 505 510

gag tgg gag agc aat ggg cag ccg gag aac aac tac aag acc acc acg cct	1641
Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro	
515 520 525	
ccc gtg ctg gac tcc gac ggc tcc ttc ttc ctc tat agc aag ctc acc	1689
Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr	
530 535 540	
gtg gac aag agc agg tgg cag cag ggg aac gtc ttc tca tgc tcc gtg	1737
Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val	
545 550 555 560	
atg cat gag gct ctg cac aac cac tac acg cag aag agc ctc tcc ctg	1785
Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu	
565 570 575	
tct ccg ggt aaa tga actagttcta gagcggccgc ggatctgttt aaactagt	1838
Ser Pro Gly Lys	
580	

<210> 36

<211> 580

<212> PRT

<213> Artificial Sequence

<220>

<223> Fusion Construct

<400> 36

Met Pro Leu Ser Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu	
1 5 10 15	

Leu Pro Leu Leu Leu Ala Ser Phe Thr Gly Arg Cys Pro Ala Gly	
20 25 30	

Glu Leu Glu Thr Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala	
35 40 45	

Lys Leu Pro Cys Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln	
50 55 60	

Val Ala Trp Ala Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu Ala	
65 70 75 80	

Leu Leu His Ser Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu Gly	
85 90 95	

Arg Val Glu Gln Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser Val	
100 105 110	

Leu Leu Arg Asn Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys Arg	
115 120 125	

Val Ser Thr Phe Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu Arg	
130 135 140	

Val Leu Val Pro Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu Glu	
145 150 155 160	

Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly Ser
 165 170 175
 Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr Ser
 180 185 190
 Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu Phe
 195 200 205
 His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys Val
 210 215 220
 Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile Leu
 225 230 235 240
 His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp Gln
 245 250 255
 Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu Ser
 260 265 270
 Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly Pro
 275 280 285
 Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro Pro
 290 295 300
 Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His Val Ser Asn Glu
 305 310 315 320
 Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val Leu Ala Asp Pro
 325 330 335
 Gln Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala Ser Arg Ser
 340 345 350
 Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Ala Glu
 355 360 365
 Gly Ala Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu
 370 375 380
 Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser
 385 390 395 400
 His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu
 405 410 415
 Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr
 420 425 430
 Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn
 435 440 445
 Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro
 450 455 460
 Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln
 465 470 475 480

Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val
 485 490 495

Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
 500 505 510

Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
 515 520 525

Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr
 530 535 540

Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val
 545 550 555 560

Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu
 565 570 575

Ser Pro Gly Lys
 580

<210> 37

<211> 497

<212> PRT

<213> homo sapiens

<400> 37

Glu Leu Gln Lys Arg Trp Ala Val Cys Leu Ser Thr Met Pro Leu Ser
 1 5 10 15

Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu Leu Leu Leu
 20 25 30

Leu Leu Ala Ser Phe Thr Gly Arg Cys Pro Ala Gly Glu Leu Glu Thr
 35 40 45

Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala Lys Leu Pro Cys
 50 55 60

Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln Val Ala Trp Ala
 65 70 75 80

Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu Ala Leu Leu His Ser
 85 90 95

Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu Gly Arg Val Glu Gln
 100 105 110

Pro Pro Pro Pro Arg Asn Pro Leu Asp Gly Ser Val Leu Leu Arg Asn
 115 120 125

Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys Arg Val Ser Thr Phe
 130 135 140

Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu Arg Val Leu Val Pro
 145 150 155 160

Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu Glu Glu Gly Gln Gly
 165 170 175

Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly Ser Pro Ala Pro Ser
 180 185 190

Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr Ser Ser Arg Ser Phe
 195 200 205

Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu Phe His Leu Val Pro
 210 215 220

Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys Val Val Ser His Pro
 225 230 235 240

Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile Leu His Val Ser Phe
 245 250 255

Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp Gln Asn Leu Trp His
 260 265 270

Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu Ser Glu Gly Gln Pro
 275 280 285

Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly Pro Leu Pro Ser Gly
 290 295 300

Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro Pro Leu Thr Thr Glu
 305 310 315 320

His Ser Gly Ile Tyr Val Cys His Val Ser Asn Glu Phe Ser Ser Arg
 325 330 335

Asp Ser Gln Val Thr Val Asp Val Leu Asp Pro Gln Glu Asp Ser Gly
 340 345 350

Lys Gln Val Asp Leu Val Ser Ala Ser Val Val Val Val Gly Val Ile
 355 360 365

Ala Ala Leu Leu Phe Cys Leu Leu Val Val Val Val Val Leu Met Ser
 370 375 380

Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr Gln Lys Tyr Glu Glu
 385 390 395 400

Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg Arg Leu His Ser His
 405 410 415

His Thr Asp Pro Arg Ser Gln Ser Glu Glu Pro Glu Gly Arg Ser Tyr
 420 425 430

Ser Thr Leu Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu Leu
 435 440 445

Ser Pro Gly Ser Gly Arg Ala Glu Glu Glu Asp Gln Asp Glu Gly
 450 455 460

Ile Lys Gln Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu Arg
 465 470 475 480

Ala Lys Pro Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His Leu
 485 490 495

Val

<210> 38
 <211> 402
 <212> PRT
 <213> homo sapiens

<400> 38
 Glu Leu Gln Lys Arg Trp Ala Val Cys Leu Ser Thr Met Pro Leu Ser
 1 5 10 15

Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu Leu Leu Leu
 20 25 30

Leu Leu Ala Ser Phe Thr Val Pro Pro Leu Pro Ser Leu Asn Pro Gly
 35 40 45

Pro Ala Leu Glu Glu Gly Gln Gly Leu Thr Leu Ala Ala Ser Cys Thr
 50 55 60

Ala Glu Gly Ser Pro Ala Pro Ser Val Thr Trp Asp Thr Glu Val Lys
 65 70 75 80

Gly Thr Thr Ser Ser Arg Ser Phe Lys His Ser Arg Ser Ala Ala Val
 85 90 95

Thr Ser Glu Phe His Leu Val Pro Ser Arg Ser Met Asn Gly Gln Pro
 100 105 110

Leu Thr Cys Val Val Ser His Pro Gly Leu Leu Gln Asp Gln Arg Ile
 115 120 125

Thr His Ile Leu His Val Ser Phe Leu Ala Glu Ala Ser Val Arg Gly
 130 135 140

Leu Glu Asp Gln Asn Leu Trp His Ile Gly Arg Glu Gly Ala Met Leu
 145 150 155 160

Lys Cys Leu Ser Glu Gly Gln Pro Pro Pro Ser Tyr Asn Trp Thr Arg
 165 170 175

Leu Asp Gly Pro Leu Pro Ser Gly Val Arg Val Asp Gly Asp Thr Leu
 180 185 190

Gly Phe Pro Pro Leu Thr Thr Glu His Ser Gly Ile Tyr Val Cys His
 195 200 205

Val Ser Asn Glu Phe Ser Ser Arg Asp Ser Gln Val Thr Val Asp Val
 210 215 220

Leu Asp Pro Gln Glu Asp Ser Gly Lys Gln Val Asp Leu Val Ser Ala
 225 230 235 240

Ser Val Val Val Val Gly Val Ile Ala Ala Leu Leu Phe Cys Leu Leu
 245 250 255

Val Val Val Val Val Leu Met Ser Arg Tyr His Arg Arg Lys Ala Gln
 260 265 270

Gln Met Thr Gln Lys Tyr Glu Glu Glu Leu Thr Leu Thr Arg Glu Asn
 275 280 285

Ser Ile Arg Arg Leu His Ser His His Thr Asp Pro Arg Ser Gln Pro
 290 295 300

Glu Glu Ser Val Gly Leu Arg Ala Glu Gly His Pro Asp Ser Leu Lys
 305 310 315 320

Asp Asn Ser Ser Cys Ser Val Met Ser Glu Glu Pro Glu Gly Arg Ser
 325 330 335

Tyr Ser Thr Leu Thr Thr Val Arg Glu Ile Glu Thr Gln Thr Glu Leu
 340 345 350

Leu Ser Pro Gly Ser Gly Arg Ala Glu Glu Glu Asp Gln Asp Glu
 355 360 365

Gly Ile Lys Gln Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu
 370 375 380

Arg Ala Lys Pro Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His
 385 390 395 400

Leu Val

<210> 39

<211> 498

<212> PRT

<213> homo sapiens

<400> 39

Glu Leu Gln Lys Arg Trp Ala Val Cys Leu Ser Thr Met Pro Leu Ser
 1 5 10 15

Leu Gly Ala Glu Met Trp Gly Pro Glu Ala Trp Leu Leu Leu Leu Leu
 20 25 30

Leu Leu Ala Ser Phe Ala Gly Arg Cys Pro Ala Gly Glu Leu Glu Thr
 35 40 45

Ser Asp Val Val Thr Val Val Leu Gly Gln Asp Ala Lys Leu Pro Cys
 50 55 60

Phe Tyr Arg Gly Asp Ser Gly Glu Gln Val Gly Gln Val Ala Trp Ala
 65 70 75 80

Arg Val Asp Ala Gly Glu Gly Ala Gln Glu Leu Ala Leu Leu His Ser
 85 90 95

Lys Tyr Gly Leu His Val Ser Pro Ala Tyr Glu Gly Arg Val Glu Gln
 100 105 110

Pro Pro Pro Pro Arg Asn Leu Leu Asp Gly Ser Val Leu Leu Arg Asn
 115 120 125

Ala Val Gln Ala Asp Glu Gly Glu Tyr Glu Cys Arg Val Ser Thr Phe
 130 135 140

Pro Ala Gly Ser Phe Gln Ala Arg Leu Arg Leu Arg Val Leu Val Pro
 145 150 155 160

Pro Leu Pro Ser Leu Asn Pro Gly Pro Ala Leu Glu Glu Gly Gln Gly
 165 170 175

Leu Thr Leu Ala Ala Ser Cys Thr Ala Glu Gly Ser Pro Ala Pro Ser
 180 185 190

Val Thr Trp Asp Thr Glu Val Lys Gly Thr Thr Ser Ser Arg Ser Phe
 195 200 205

Lys His Ser Arg Ser Ala Ala Val Thr Ser Glu Phe His Leu Val Pro
 210 215 220

Ser Arg Ser Met Asn Gly Gln Pro Leu Thr Cys Val Val Ser His Pro
 225 230 235 240

Gly Leu Leu Gln Asp Gln Arg Ile Thr His Ile Leu His Val Ser Phe
 245 250 255

Leu Ala Glu Ala Ser Val Arg Gly Leu Glu Asp Gln Asn Leu Trp His
 260 265 270

Ile Gly Arg Glu Gly Ala Met Leu Lys Cys Leu Ser Glu Gly Gln Pro
 275 280 285

Pro Pro Ser Tyr Asn Trp Thr Arg Leu Asp Gly Pro Leu Pro Ser Gly
 290 295 300

Val Arg Val Asp Gly Asp Thr Leu Gly Phe Pro Pro Leu Thr Thr Glu
 305 310 315 320

His Ser Gly Ile Tyr Val Cys His Val Ser Asn Glu Phe Ser Ser Arg
 325 330 335

Asp Ser Gln Val Thr Val Asp Val Leu Ala Asp Pro Gln Glu Asp Ser
 340 345 350

Gly Lys Gln Val Asp Leu Val Ser Ala Ser Val Val Val Val Gly Val
 355 360 365

Ile Ala Ala Leu Leu Phe Cys Leu Leu Val Val Val Val Val Leu Met
 370 375 380

Ser Arg Tyr His Arg Arg Lys Ala Gln Gln Met Thr Gln Lys Tyr Glu
 385 390 395 400

Glu Glu Leu Thr Leu Thr Arg Glu Asn Ser Ile Arg Arg Leu His Ser
 405 410 415

His His Thr Asp Pro Arg Ser Gln Ser Glu Glu Pro Glu Gly Arg Ser
420 425 430

Tyr Ser Thr Leu Thr Thr Val Arg Glu Ile Glu Thr Gln Ala Glu Leu
435 440 445

Leu Ser Pro Gly Ser Gly Arg Ala Glu Glu Glu Asp Gln Asp Glu
450 455 460

Gly Ile Lys Gln Ala Met Asn His Phe Val Gln Glu Asn Gly Thr Leu
465 470 475 480

Arg Ala Lys Pro Thr Gly Asn Gly Ile Tyr Ile Asn Gly Arg Gly His
485 490 495

Leu Val

100 90 80 70 60 50 40 30 20 10